14 Feb 1948 page 3 Sat- Eve Post.

oh, Dry Scalp!

BROTHER! He can fix everything—but his own hair! and tangled . . . it never looks combed. Look at that . . . he's got Dry Scalp. Here's where *I* can help *him!* bout 'Vaseline' Hair Tonic!"

Hair looks better...
scalp feels better...
n you check Dry Scalp

R NOT, this is the same man. 'Vaseline' Hair Tonic can ! For better-looking hair, a better-feeling scalp, try a day . . . It checks loose dandruff and other signs of emember, 'Vaseline' Hair Tonic contains no alcohol or ingredients. Use it also with massage before every ives double care . . . to both scalp and hair . . . and it's deal than other hair tonics, too.

seline HAIR TONIC
MARK®
d today than any other hair tonic

LETTERS
TO THE EDITORS

FEARFUL FOSDICK

What, a western hero who is *afraid?* My goodness! Clarence Budington Kelland, the first story writer to discover and explore Arizona with a Man Afraid [THIS IS MY SON, Dec. 13-Jan. 31]. Strawn was afraid; I would have been afraid; you would have been afraid. . . . We can settle back in our easy chair and enjoy the yarn without once having to get up to estimate our muscles(?) in the mirror.

GEORGE P. BARBER

Concord, Calif.

NIZAM'S CHARIOTS (Cont'd)

Please tell Mr. Irving Wallace, author of NABOB'S CHARIOT, not to worry about his statement regarding the canary-yellow Rolls-Royce of the Nizam of Hyderabad despite the contradiction of George Garden in the January 10th issue [LETTERS TO THE EDITORS].

This regal motorcar "chariot" may not exist now—I have no way of knowing that—but it did exist and made semifrequent appearances on the streets of Hyderabad. I was in the service of H. E. H. the Nizam for some seven years and have often seen the car. Not only was it finished in canary yellow (the Nizam's color) but all outside metal work was gold-plated and the interior upholstered in canary-yellow damask to match the finish. . . .

W. McK. WRIGHT

Birmingham, Ala.

The writer was attached to the 8th Reserve Battalion stationed in Trimulgherry just outside Secunderabad in the Deccan for some 12 months during the years 1917 and 1918. He does not remember seeing the Nizam himself driving in a Rolls-Royce car, but has a clear recollection of members of the Nizam's staff doing so—beautiful, showy cars of which we poor subalterns were very envious. . . .

KENNETH BAILLIE

Toronto, Canada

THE TROUBLE WITH RADIO

Applause and all nice things to Paul Schubert for his critical analysis of what ails American Radio [A RADIOMAN LOOKS AT RADIO, Jan 10]. I have long felt that our networks were suffering hardening of the kilocycles. . . .

My pop used to tell me that radio programs were for children, morons and illiterates, who could not or would not make the effort to read good books. At the time I thought he was trying to break me of not being able to do my homework without the accompanying stimulus of a noisy radio. But now that I've outgrown my earlier tastes, and dial for better things, I have a tough time finding them. I'm beginning to think pop was right.

HARRY MAXWELL, JR.

Philadelphia, Pa.

. . . I'm not saying radio is perfect—by no means! But why does an advertiser sponsor a radio program? . . . Primarily, it's for the same reason that he buys a full page in The Saturday Evening Post: to sell merchandise. To sell merchandise a radio station requires *listeners,* just like the S. E. P. requires *circulation.* . . .

I don't like soap operas either, but as long as they have a host of loyal listeners, *and* they sell merchandise—let 'em be. Mr. Schubert doesn't *have* to listen. Since when is a "commentator" like Mr. Schubert a "radioman"? What does he know about the mechanics of putting a show on the air? . . .

SI LEWIS
Harry S. Goodman
Radio Productions

New York, N. Y.

. . . As program director of a new station soon to take to the air for its initial broadcast, I have hopes of providing one of those few "islands of good listening" which Mr. Schubert mentions. His article has offered further incentive toward programming improvement, and I think all of us in radio can profit by his suggestions. . . .

ROBERT L. McGRATH
Station KLMR

Lamar, Colo.

RETURN OF THE DINOSAUR

Of course there are still dinosaurs [THERE COULD BE DINOSAURS, by Ivan T. Sanderson, Jan. 3]. This one [see cut] has been grazing in front of Geology Hall on this campus since last Homecoming. His(?) name is Topper, short for Triceratops.

WILLIAM HODAGG
University of Wyoming

Laramie, Wyo.

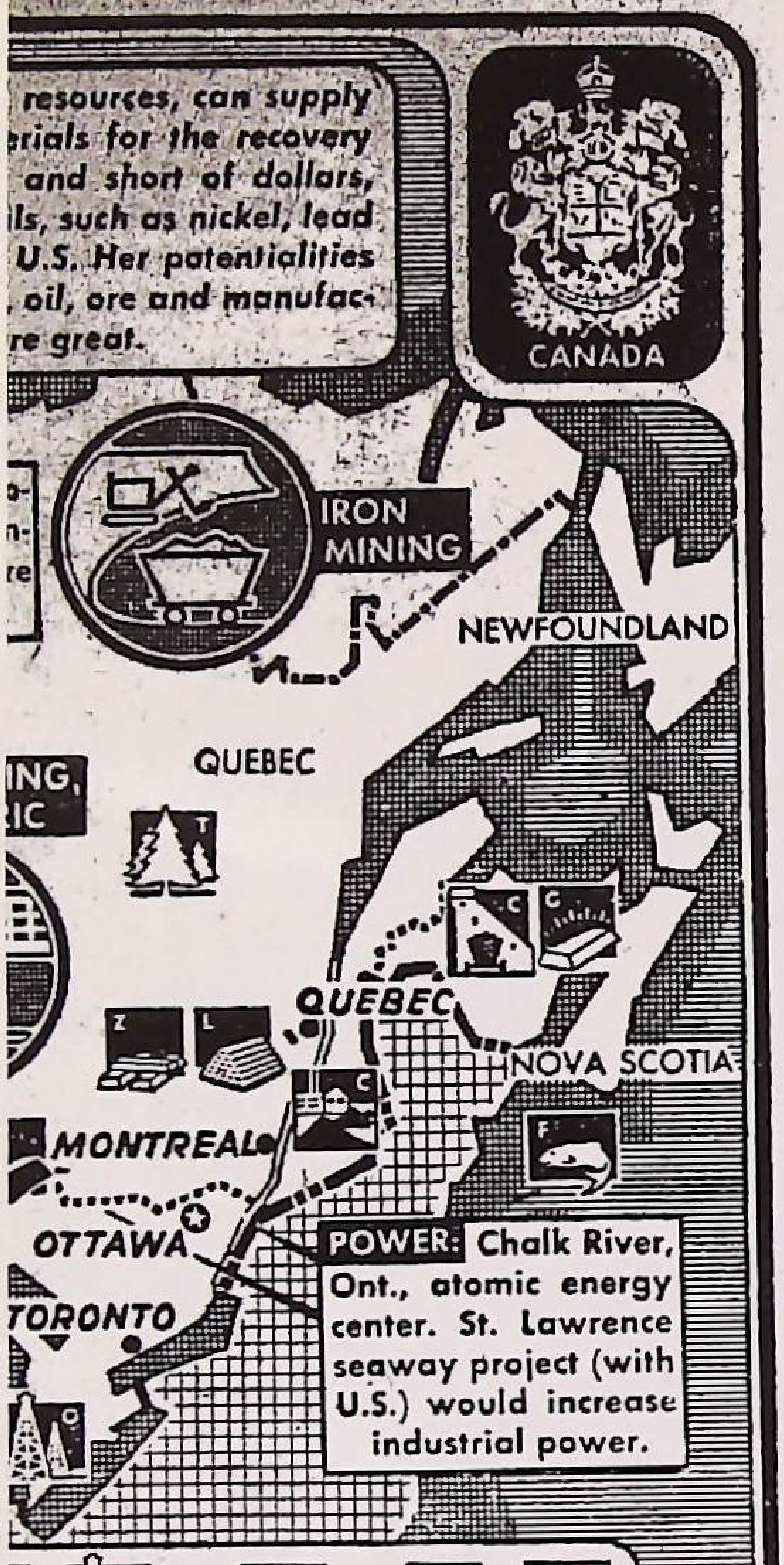
. . . To the estimated 1,600,000 persons who viewed the 59th annual Tournament of Roses at Pasadena, California, there *are* dinosaurs, and the enclosed photograph [bottom cut] proves it. . . .

MARLEE GARBETT

South Pasadena, Calif.

NEWSPAPER: THE WASHINGTON POST
LOCATION: WASHINGTON, D.C.
DATE: 18 JANUARY 1948 - SUNDAY
SECTION 2 - PAGE 4(?), COLUMN 7-8.

oir for ERP



ls more people. The present total pop-ion of 12 million has been declared by Montreal Board of Trade as out of pro-ion to the habitable area and the work ing to be done.

broad, though selective, immigration cy currently is admitting immigrants n Britain, Europe and the United States numbers that are impressive for the war period. Twenty thousand European laced persons are to be brought over 1.

The Magazine Rack

By Katharine Graham

AS if to allay the rumor that Stalin is dead, the **Saturday Evening Post** has an article by a refugee from Russia called "Stalin Thinks I'm Dead."

It differs from the usual run of similar stories in that the anonymous author lived as well or better than most people in the Soviet Union, is not vitriolic or bitter, but merely saw something during the war which he decided was a better deal. Added to this was his miraculous escape from an airplane crash in which all but one other man perished. Since they both knew they were officially dead, they decided not to return to Russia and Vasili Kotov, as the author signs himself, headed gradually for this country.

The Post allays the thought that springs inevitably to mind, that Kotov could well be a Russian plant. Proper authorities, the magazine declares, have looked into this.

Also in this week's issue is a detailed account of progress made in treating epilepsy, by Milton Silverman, and "I Cured Myself of Working" by Dr. Joseph Peck, who retired at 60 from the general practice of medicine to a farm in the foothill region of the Sierra Nevadas. The Post points out that Dr. Peck's was an unsolicited manuscript from an unknown author who had never written for anything but medical journals and that the job of picking the good ones from 90.000 submitted manuscripts a year is not easy.

* * * *

TO while away some cold winter evenings and at the same time enjoy your day dreams before the time comes for action, there are no better companions than the new gardening manuals except perhaps the seed catalogues themselves.

On sale now are two excellent ones: **Better Homes and Gardens' Gardening Guide** and **House Beautiful's Practical Gardener.** Contained in their pages is but ideas in it can be used anywhere.

One that particularly appeals to this column is a built-in piece of furniture with slanting shelves for magazines. As the editors note, the problem of an adequate magazine rack is an unsolved one in most homes where they are strewn about, misplaced or so hopelessly jammed together that finding what you want is a hopeless task. Back issues when needed have inevitably been given to those little boys who come to the door collecting scrap paper.

One house we know of contains a rack like the ones dealers use, but this solution is impractical at the moment unless some smart furniture manufacturer would please use this idea.

* * * *

JOHN DOS PASSOS continues to find a platform for his confusion in **Life.** Not that confusion is entirely individual these days, but that Dos Passos takes a good deal of space to repeat what he implied in his piece on Great Britain. What was once considered "liberal," he says, is so no longer. Socialism is a failure, he thinks, because it constricts personal liberty and puts into power a "ruling class that is hampered by tradition and training from doing anything effective to stimulate production." His platform—"We've got to do better than that."

There are also two pages of "bird counters" at work here in Washington for the National Audubon Society. Local counters shown are Dr. Alexander Wetmore of the Smithsonian, Charles Mason and Shirley Briggs, illustrator for the United States Fish and Wildlife Service.

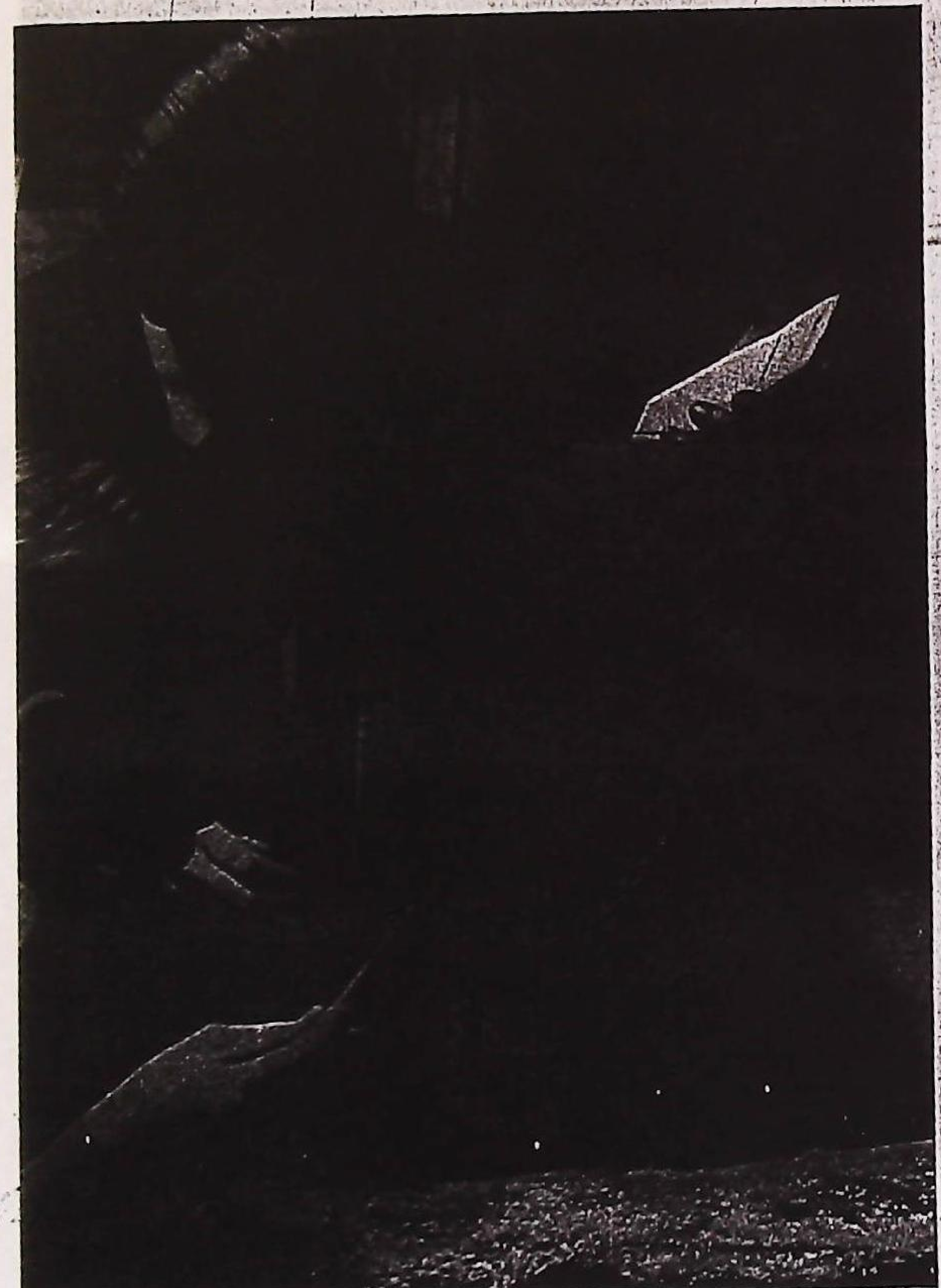
Sat Eve Post p 36 Feb 21 1953

MAGAZINE: THE SATURDAY EVENING POST
DATE: 21 FEBRUARY 1953
PAGE: 36-37, 122-123, 125.
ARTICLE: BIGGEST SLEEPYHEADS IN THE WORLD
AUTHOR: IVAN T. SANDERSON
THIS IS PAGE: 36

Biggest Sleepyheads in the World

By IVAN T. SANDERSON

Bears and possums hibernate to avoid winter food shortages, parrots take three-week naps to escape rain. Frogs sleep for ten years and worms for forty. But the champion "resters" are plants. Take those lotus seeds that slept for 2000 years.



FRANK ROSS

A woodchuck perched on ice in the Philadelphia zoo haughtily observes Frederick A. Ulmer, Jr., the zoo's curator of mammals, and the author, who are trying to make him hibernate out of season.

IN Europe there is a traditional folk game for small boys which is known as "rolling dormice." It is an amusing pastime. I know, because I played it. The first time was in southern Denmark, where a small companion showed me a mysterious little ball of closely woven hay that he had discovered in a thick hedge in his aunt's garden. We extracted this by cutting the numerous twigs to which it was attached, and took it back to the house. We then spent a long time trying to find a way into it, ending up by resorting to a pair of scissors. Right in the middle we found what we expected—a small, brown, very soft, furry animal about the size of a large mouse, curled up into a neat ball with its head on its tummy and its furred tail wrapped over its back.

Taking it out carefully, we found it to be quite cold and firm, like rubber; it could be rolled across the table and gently batted about just like a tennis ball. Nor did it show any sign of life, although we kept up this harmless game for some time. Then we put it back into its little nest, and left it in a box, and although the room in which we kept it was warm, at least by European standards, it just lay there until I left two weeks later.

This little creature, which belongs to a group of gnawing animals distantly related to squirrels, has played a large part in European folklore because of its habit of deep hibernation. Its very name means the sleeping—*dor*, as in the French *dormir*, to sleep—mouse. It is one of several animals that indulge in this practice. Others in Europe are the prickly hedgehogs, the badgers, marmots, ground squirrels and various bats. Then, of course, almost all the cold-blooded reptiles, salamanders, frogs and toads, and a few fish customarily hibernate in northern climes, while a vast number of lesser creatures, like slugs and snails, many insects and certain worms do likewise. In our country there are several profound hibernators, though the number is much fewer among the warm-blooded, furred mammals than is often supposed. But here we run into certain difficulties, for there is no really precise definition of hibernation *per se*.

For instance, it is current practice among naturalists to affirm that bears do not hibernate. This, however, is often hotly denied by knowledgeable country folk in areas where these animals live. The trouble is one of words rather than of facts, for the whole business of hibernation, like most of Nature's mysteries, is much more complicated than is generally realized. There are many degrees of hibernation, and hibernation is itself only one of a wide variety of methods—among which must be included estivation, sleep, catalepsy, trance, and even hypnosis, anesthesia, and what is called narcosynthesis—which are used by sundry living things to overcome certain otherwise unsupportable periods of life.

The whole business, which should perhaps be better referred to as "suspended animation," is fraught with a host of as yet unexplained aspects. Happily, a lot of research has been conducted upon these matters, and we now know a great deal about them. For once, what is more, we not only know how the animals do what they do but also, in several instances, why they do it. They hibernate to overcome winter food shortage; they estivate to avoid drought; and they adopt the other forms of temporary suspension of activity to obviate pain, floods, accidental burial or even, on occasion, life itself, particularly when their bodies are overworked or unfit to reproduce. The way they achieve such temporary relief is, moreover, often very marvelous.

It is a common practice of bears, during northern winters, to spend most of the time sleeping in holes or caves that are often lined with ice formed by the condensation of their breath. The females give birth to their tiny, rat-sized infants in January in such retreats, but they do not, at these times, go into a complete state of suspended animation; rather, they simply sleep away the weeks and their accumulated body fat, interrupting their lethargy only if disturbed or if the temperature either rises or falls very precipitately. Then they awaken very easily, and are immediately fully active. This matter of a falling temperature causing such a result requires explanation.

This is among the more unexpected aspects of hibernation and the related states that animals have devised for overcoming the rigors of northern winters, and it brings up several other odd facts. It is now believed—and on very good grounds—that hibernation is not devised to avoid cold, but rather to get around a seasonal food shortage. The state itself is, however, induced by a combination of factors, the first being the inherited custom of the animal—certain ground squirrels and skunks will get drowsy and go into partial or complete seasonal suspension even if given ample food and kept in a warm room. Hibernation has also been artificially produced by injections of insulin, but this works only if the temperature is lowered at the same time, and even then the whole thing can be upset if absolute quiet is not maintained.

They are Cold-Blooded About All This

ONCE in hibernation, a warm-blooded mammal actually becomes cold-blooded, just like a reptile, and its body temperature, although maintained just a little above that of the air around it, actually varies with the temperature of that air. If it gets too warm, certain changes automatically start within the body of the animal, and these begin to "unbutton," as it were, the hibernating state, but if it gets too cold, the body reacts in another way to avoid freezing. This marvelous built-in mechanism appears to function by the release of adrenaline into the bloodstream, and thus wakes the animal.

At the moment, I happen to own, among many other odd little creatures, a tame skunk and a far-from-tame hoary marmot. The latter comes from Alaska, and is a sort of large ground squirrel related to the woodchuck. It normally gnashes its teeth at anyone who dares approach its cage, and when it is really enraged it gives vent to an ear-splitting, partially supersonic whistle that actually gives one a headache. The behavior of these animals throughout the year has been very interesting to observe. They passed through the five recognized stages precisely on time, and finally drifted away into a state of partial or complete hibernation right before our eyes in a most comfortably warmed house, and despite great piles of delicious food at their very noses. Both were emaciated when they came to us in the early spring and they spent many weeks recovering. They settled down to the serious business of eating, and this they continued to do until late September in the case of the marmot, and mid-November for the skunk. Then they got so fat and drowsy we could no longer stir them up even by gentle prodding or by blowing on their ears, which normally annoys even the tamest beast. At the time of writing (late November), the marmot is sitting up with his head bent upon his tummy, in a small volcano of shavings that he erected for himself in his cage. The skunk is lying on its side, breathing very gently in a cat-carrying case that it has appropriated. It is so fat that it cannot even get out of the case, though the lid is always left open, and it sometimes wakes up when one of the nonhibernating animals housed with it makes a particularly loud rumpus.

What actually goes on within the bodies of these and other animals that hibernate? Here we find ourselves on rather surer ground than usual, for the physiologists are actually able to weigh, measure and otherwise observe hibernating creatures kept in jars at regulated temperatures.

BUZZ BROWN

This dormant western ground squirrel is proving to Dr. Falconer Smith, of the National Institute of Health, that as a hibernating animal he has a good chance of surviving a lethal dose of radiation.

The degree of change is not, as I have already observed, the same for all animals that adopt this method of self-preservation, but the general methods are, as a whole, similar. Most true hibernators begin to get drowsy when the temperature drops to about fifty degrees Fahrenheit, and then their breathing gradually slows down until the intake of oxygen may drop to as little as one twentieth of normal and the output of carbon dioxide to as low as one fortieth. The rate of respiration drops drastically—in the case of the chipmunk from the normal 150 inhalations per minute to only six, and the pulse rate follows suit, in this animal slowing from 250 to 170 per minute. Meanwhile, the temperature drops down to a few degrees above that of the surrounding air. In the case of some bats, which are the champion hibernators of all, the temperature of the body has actually been known to fall below freezing point, and hoarfrost has been photographed coating their fur.

Another peculiar fact noted by one research worker is that there is an enormous increase in the number of white corpuscles in the blood of hibernating bats. For the benefit of the more medically inclined, it should be added that the weight of the adrenal and pituitary glands drops to half the full summertime normal, while there is a considerable increase in the production of insulin.

Now, these and certain other, even more abstruse, changes in the body chemistry of the animals are nothing but exaggerations of the symptoms of what we call normal sleep, but the line between this and at least half a dozen other kinds of sleep is very hard to define. Actually, it appears (Continued on Page 122)

Sanderson and Ulmer have artificially induced this meadow jumping mouse to hibernate by leaving him in a refrigerated room for 17 hours. He came to in 45 minutes in a normal room temperature.

FRANK ROSS

page 122

: the

P·A

er

ad how he helps
ar on the road
iing smoothly!

ɔw him, personally . . . or
business. But chances are
in your community has
ou, often. For, it's his job
iirman with needed parts
ep your car or truck run-
safely. The NAPA Jobber
ɔusinessman. But because
APA (the nation's largest
ɔrganization), he can g[illegible]
:eptional service on parts
uine quality—for cars and
ind ages. Across America,
APA Jobbers provide this
herever you see the NAPA
lity" Seal, you'll know the
i the job—helping to keep

TIVE PARTS ASSOCIATION
1, MICHIGAN

P·A
's the largest Independent
Parts Organization in the
Automotive Industry!

tive products distributed by NAPA

BIGGEST SLEEPYHEADS IN THE WORLD

(Continued from Page 37)

to be our idea of what is normal that is off-center. To some bats, being awake must be at least somewhat more unusual than being asleep, for they are busy at the latter for more than half their entire lives, whereas we spend only about a third of ours in this condition.

Hibernating bats never cease to astonish me, especially when encountered in the deep, lightless, silent, cold recesses of a cave. There is one cave in upper New York State that I have visited every year for some time and almost every little nook and cranny of which I now know. Regularly every year, when the temperature drops below a certain point for more than two days in succession after a certain date, my little fluffy friends are back, each in his or her own niche, although the temperature in the cave never varies by more than two or three degrees throughout the year.

At first they are restive, moving about upside down on the ceiling, and are apt to take to wing if touched or suddenly focused in a bright light. But in a few days they have settled down and become quite inert. Then they may be picked off the walls and held in the hand for several minutes before they begin to shiver violently and then to move feebly; the movements starting with the head and ears, and ending with the hind feet. But they do not remain inert all winter, for I find that they move individually between my visits, changing their positions so that they may hang by one leg for weeks, then by the other, and at other times cling with the claws of all four limbs.

This shivering is a regular feature of animals coming out of hibernation either naturally or when disturbed. Also, it has been noted that the muscles seem to limber up progressively from the head backwards to the tail, while the animal is greatly agitated and full of exceptional vigor when it first gets entirely free from this state. And even deep hibernators can wake up surprisingly quickly—a woodchuck dropped into cold water when completely "out," began to swim instantly.

A curious fact about warm-blooded hibernators is that they are apparently all animals which find particular difficulty in regulating their body heat at normal times. Most of them suffer from heat far more than such creatures as foxes or deer, which are active throughout the coldest winters. In this respect they are more like the cold-blooded reptiles and amphibians, all of which derive their body heat from outside.

There has been an age-old debate as to whether certain birds, and notably swallows, hibernate. The accounts of their doing so range from very reliable eyewitness reports of martins and swifts clustered under cliffs or even in chimneys for days or weeks on end without moving, to fabulous stories—sometimes allegedly supported by sworn affidavits—of swallows being dredged up from lake bottoms encased in blisters of mud. I have long since passed the stage where I would dare to state that anything in Nature is absolutely impossible, but I am willing to go on record as stating that swallows do not hibernate under water. Whether they hibernate elsewhere at any time is, however, still open to question.

Most birds that wish to avoid winter, being active and able to move long distances in short periods, migrate, and it was thought until recently that none hibernated. Two years ago, however, Prof. Edmund C. Jaeger, of California, for the first time produced irrefutable evidence that one of the nighthawks, known out West as the poorwill, hibernates regularly and profoundly. We now also know that the young of the European swift, a bird distantly related to the nighthawks, go into a state of suspended animation for upwards of three weeks when deserted by their parents during summer storms. There are several reports of wrens found in comatose groups in old nests in Europe during severe winters, and I have myself witnessed a curious performance by birds in the tropics.

While camping in virgin equatorial forest a hundred miles beyond the last known human habitation in the interior of Dutch Guiana, we experienced a prolonged period of driving rain and unusually cold weather right in the middle of the normally dry season. At first we tried to sit it out in our dripping tent, but as the days passed and work came to a stop while our food continued to be eaten up, I decided to do some hunting for the pot.

A mile behind our camp was a deep ravine with overhanging cliffs and a few shallow caves. This ravine was always full of birds, great and small. On this occasion, however, there was not a bird to be seen, and so I retired into one of the caves, shivering and soaked to the skin. Hearing a slight noise above, I looked up and was amazed to see several dozen green parrots huddled together on a narrow ledge with their heads drooping over the edge. I regret to say that parrots are very good to eat, and are therefore regular fare in some countries. Since I did not want to risk firing a charge in a small cave, I climbed cautiously up to them, but they did not move and appeared to be in a state of coma, so that I was able to knock down four with a stick, while all the others just slept on. The first morning the sun came out they were all gone, but they were there for over a week without ever moving.

This is not a unique case of tropical animals responding to unusual cold by adopting measures that are equivalent to or appear like hibernation. However, the more normal rule in the tropics is for animals to estivate, a term derived from the Latin *aestas* meaning "summer."

This is a misleading word, because the behavior it denotes is not necessarily confined to summertime, even in the temperate regions where there is a true summer. Further, its operation is almost exactly like hibernation, though brought about by different causes, and there are some animals—like the crocodilians—that can hibernate in the north and estivate in the south. Its purpose is the avoidance of drought or at least desiccation, and it is among the records of animals which estivate that we begin to run into some of the really unbelievable facts about life.

The classic case is probably that of the Egyptian desert snail which was sent to the British Museum among a collection of preserved animal specimens, sometime prior to the year 1846. It happened to be selected by a curator for display in one of the public showcases and was glued to a board, labeled and put on exhibit. On March 15, 1850, an attendant noticed some slime exuding from this snail, and reported the incident. The curator examined the snail, pried it from the board and soaked it in lukewarm water. Out crawled the animal and immediately it set to work upon a piece of fresh lettuce.

Many snails are known to ret
into hibernation or estivation by s
ing their shells with horny or ch
stoppers, and remain thus inert
long periods. Though four years
suspended animation may seem a l
time, it is really a very meager e
for an estivator. Animals as hi
evolved as crocodiles have been kn
to sink into mud under streams
had completely dried up and lie t
for over a year. There are area
Australia where rain is completely
known for years on end, and about
upper reaches of the Murray Riv
the end of such a ten-year period, f
of various species were found enc
in holes in porous but apparently a
lutely dry mud; they were in a s
of suspended animation. The fan
lungfish of Africa, Australia and S
America constitute other classic ex
ples of prolonged estivation. There
an African specimen in a lump of
that was kept for years in the Br
Museum, periodically being pu
water and revived for important
sons who visited the institution.
the all-time champions are to be f
among the lower, more simple cl
of animals.

Certain types of worms know
nematodes, of which the common

The Per

THE clergyman who sque
onto the front platform
rush-hour bus soon regretted
effort. For the young bus dri
obviously in a hurry to compl
his run, made every start and
an adventure in balance.

When the badly jolted pass
gers complained, the driver tur
to the clergyman and said, "
ten to that. Listen how they ho
when you try to make a li
time. It's like that all the ti
You just can't [illegible] them."

The Post pays [illegible] authentic,
be typewritten. [illegible] not ackno
declined. The P[illegible] does not retu

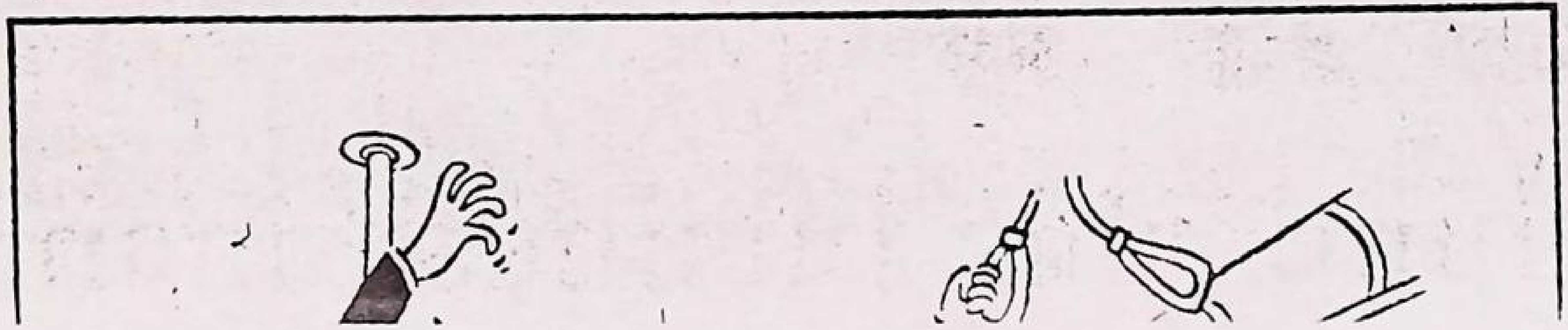
Feb 21 1953
page 123

Many snails are known to retreat into hibernation or estivation by sealing their shells with horny or chalky stoppers, and remain thus inert for long periods. Though four years of suspended animation may seem a long time, it is really a very meager effort for an estivator. Animals as highly evolved as crocodiles have been known to sink into mud under streams that had completely dried up and lie there for over a year. There are areas of Australia where rain is completely unknown for years on end, and about the upper reaches of the Murray River at the end of such a ten-year period, frogs of various species were found encased in holes in porous but apparently absolutely dry mud; they were in a state of suspended animation. The famous lungfish of Africa, Australia and South America constitute other classic examples of prolonged estivation. There was an African specimen in a lump of mud that was kept for years in the British Museum, periodically being put in water and revived for important persons who visited the institution. But the all-time champions are to be found among the lower, more simple classes of animals.

Certain types of worms known as nematodes, of which the common parasitic roundworm is an example, have been known to dry up and remain for just on forty years before being revived by immersion in water. But the most incredible of all self-desiccators are undoubtedly certain minute, jointed animals known as tardigrades. These, although completely unknown to all but a handful of specialists, are probably the commonest air-breathing animals in existence. They have been found both in the Arctic and on the Antarctic Continent, and are known from every country in the world, from caves to the tops of mountains. The largest is only about a millimeter long, but they have a brain and almost as much anatomical paraphernalia as any insect, yet they can be completely dried up till they resemble nothing more than fine, shapeless dust, and can be kept thus in a corked tube apparently indefinitely. Place them in water and wait a few hours, and they swell up again to their normal plump, though minute dimensions, and then they start moving about with great vigor.

It has now been demonstrated that cats and other animals have a kind of secondary heart that continues to pump their blood around their veins and arteries after the true heart itself has

(Continued on Page 125)



page 125
Feb 21
1953

(Continued from Page 123)

stopped. This normally works for about five minutes after the animal is what we call dead. However, if oxygen is supplied to the lungs, its action will go on for more than an hour, and during this time some animals have been revived and the real heart has started to function again. Recovery is then in many cases complete, but the animals are at first afflicted with complete amnesia for various periods. Moreover, encephalographs show that their brains are totally blank during this time. They are in a state of complete mental suspended animation, which raises the question as to whether these animals have been dead or alive during the period while the secondary heart alone was beating.

The same question may well be asked—and often has been—of people whose hearts have stopped beating under operations or who have otherwise given every appearance of being what we call dead and have subsequently been revived. The distressing fact is, however, that all such persons express themselves as totally unable to recall anything of the experience, and most of them describe it as exactly similar to a profound or absolute sleep. The most amazing thing they do often assert, however, is that their normal mental and physical condition is noticeably improved after such an experience. If this is so, it may be a contributing factor to the development of such processes as hibernation and estivation among animals. Perhaps they have evolved this habit not only as a means of avoiding temporary unpleasantnesses but also as one for recuperating from fatigue and revivifying their bodies.

I believe I can recount one case at least that points clearly to such behavior. When collecting small animals in the unexplored Assumbo Mountains of West Africa some years ago, we were more than happy to come upon certain streams which were full of the then very rare hairy frog. We collected many specimens, but learned only later that all were males. They were all in the streams.

At the same time we dug up large areas of the countryside, as is our wont, because we have learned by experience that all sorts of wonderful and unknown animals live perpetually in the soil at various depths, and are never seen above ground. During the course of these operations we came upon a number of remarkable, bright yellow-and-red frogs, with sharp claws formed by the last joint of their toes protruding through their skin. All were at the bottom of deep holes and when extracted appeared "fossilized," and set in all sorts of crazy attitudes, as if they had been killed by being jammed into a freezer. They were alive and their hearts beat feebly every now and then, but they took several hours to come to full life. Only when we returned home and dissected these frogs did we learn that they were the females of the hairy frogs.

What were they doing "frozen" like grotesque statues in deep holes in the ground while their mates disported themselves in nearby streams? They were not hibernating, because there was no winter there, and no food shortage; they were not estivating, because there was no drought; but they were certainly cutting themselves off from normal life. Is it possible that they were playing a prolonged game of "possum" in order to recoup or store up energy for the forthcoming breeding season?

This would seem to be the only reasonable explanation, for the phenomenon of self-induced catalepsy is much more common in nature than most people suppose. Our native opossum is by no means the only creature that indulges in this trick, nor is he actually the most adept. A toad with the delightful name of *Bufo superciliaris*, also from West Africa, is known to do the same in order to avoid danger; our hog-nosed snake does likewise, while certain owls, and even the wily turkey vulture, have been observed to practice the art, and foxes and the Australian dingo dog are past masters at it.

Even plants sleep, as slow-motion moving pictures have shown, and they can go into periods of suspended animation of up to 2000 years—as witness lotus seeds that have recently sprouted after being found in Stone Age canoes in Japan.

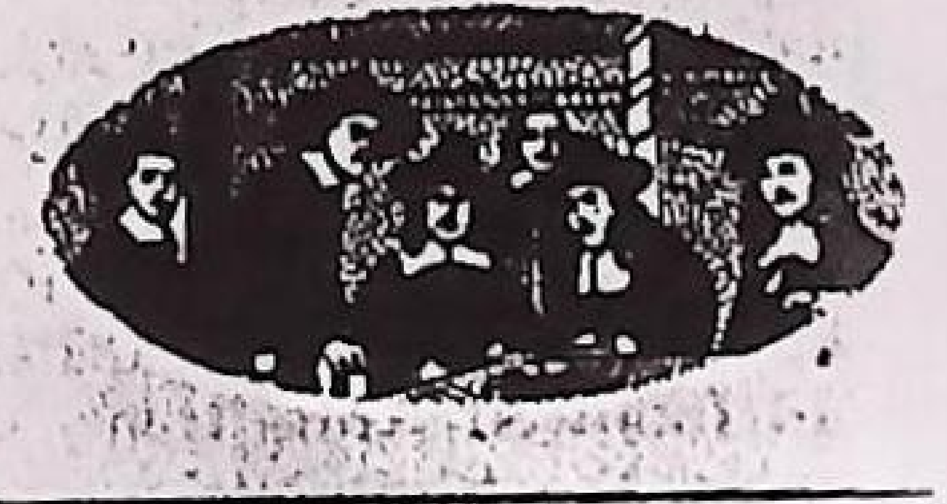
There are animals that apparently never sleep at all, and the whole habit may indeed be acquired, but whether the procedure be called normal sleep, hibernation, estivation or even catalepsy, it is nature's greatest healer and a powerful weapon of defense. Without it, the majority of living things would be unable to survive.

THE END

Suppe

Down on the farm,
you it's time to p
enjoy the honest
Masters Cigars. The
fragrance bring rar
ever you are, what
price is just as plea
only pennies more

Dutch M



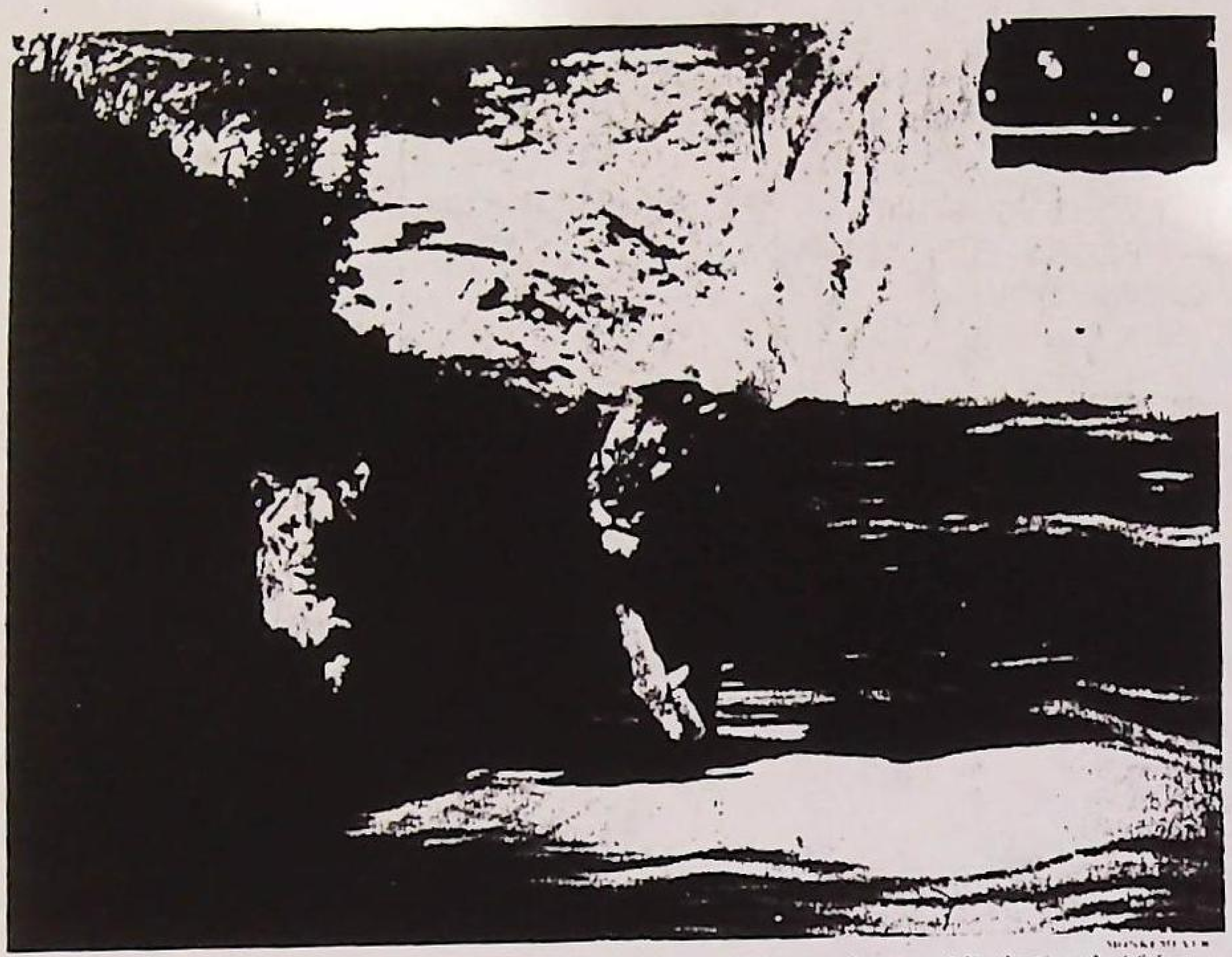
MISERABLE FEELING OF
STUFF

Just a
WHIFF
does
it!

NOSE
... anywhere ... any time
handy Vicks Inhaler makes c
stuffed nose feel clearer in seco
By makers of Vicks VapoRub.
GOES

Sat Eve Post Aug 28, 1948 page 39
Saturday Evening Post

MAGAZINE: THE SATURDAY EVENING POST -- DATE: 28 AUGUST 1948
VOLUME 221, NUMBER 9 -- PAGE: 39, 42-44.
ARTICLE: THE MISUNDERSTOOD MONARCH
AUTHOR: IVAN T. SANDERSON
THIS IS PAGE: 39



A king of the beasts and his mate stroll haughtily through Kruger National Park, South Africa.

The Misunderstood Monarch

By IVAN T. SANDERSON

The one safe prediction about lions, says the author, is that they will always be unpredictable. These regal individualists dote on airplanes, hats and railroad tracks, loathe children and alcohol—and may either roll over at your feet or eat you alive.

THERE has always been a certain affinity and mutual respect between men and lions. Men refer to the lion as the king of beasts; we don't know what lions call us, but their expressions when in our presence seem to indicate that they regard us with the utmost indifference. This seems to have intrigued the kings of men since earliest times, so that the lion has become a regal creature in more senses than one.

Actually, lions are extraordinarily like men in character. Chimpanzees may be more horribly like us in appearance and mentality, and dogs may have a greater understanding of our whims, but neither of these creatures has the depth of character displayed by the lion. Physically they are very strong animals, and they appear to appreciate this fact, so that they literally tread warily when among small friends. On the other hand, they are often greatly puzzled by the unending succession of difficulties and annoyances that is life. Like men, they put on a great front and, if their amazingly expressive eyes really indicate their inner feelings, there is no doubt that they suffer from as many frustrations and perhaps even neuroses as we do. These inner worries, moreover, appear to mount in direct proportion to the complexity of their individual lives. The few people who know lions intimately, both in captivity and in the wild, contend that they are even less predictable in the former estate.

There are no hard-and-fast rules about lions, for they are creatures without rules and, therefore, almost invariably exceptional in their behavior. Those who really know them concur in the opinion that in dealing with them you can be certain of only one thing—that you never can be certain what they will do. They are the greatest individualists in the animal world, and individualists are never popular, which perhaps accounts for their being so misunderstood. The more one learns about lions, however, the more utterly bewildered one tends to become.

A party of hunters in East Africa once saw a group of lions enter some bushes and, being without natives to drive them out, climbed the trees around to await their exit. When the lions failed to come out after a long time, a Dutchman who lived in the country climbed down, and seeing the back end of a large lion sticking out of a bush, gave its posterior a hefty kick. The lion merely squeaked and wriggled farther into the bush, like a beaten cur. On another occasion a man woke up one night to find a large lion in his tent, dragging down his mosquito net. He gave it a punch on the nose and it immediately bolted straight out of camp. My father, who had developed a practice of photographing wild lions in the daytime on his farm in Kenya, once decided to try to touch one. When he reached out to stroke its head, the animal lay down, rolled over on its back and purred.

Conversely, lions may attack on sight, even in daylight. At night they seem to regard human beings as legitimate prey, and they have even entered railway carriages and carried off full-grown men. Only experience, learned over generations, of the exceedingly brave natives where they live prevents them from making a regular practice of hunting men. This is the opinion of C. R. Pitman, the famous game warden of Uganda, who has spent a lifetime keeping down the lion population of his territory and helping to rid it of man-eaters. When they do take to man-eating, they become exceedingly dangerous and terrifyingly cunning, and the practice may become epidemic through some lioness teaching her cubs that men are vulnerable.

One man-eater was known to have killed eighty-four people before it was trapped. Another made a practice of traveling with a herd of elephants, not so much for protection as because of his realization that men were always coming to drive the elephants away from their crops, and the elephants, with their acute sense of smell and hearing, gave the lion early warning of the men's approach. On the whole, however, man-eating is rare in Africa, considering the enormous numbers of lions and natives in the districts where they live. This is probably due to the fearless way in which the Africans set about killing any that molest them or their flocks.

Several people who have kept tame lions have remarked on their inordinate fondness for hats, with which they will play for hours. Eric Wells, who plays with wild lions, believe it or not, says that he gives them an old hat to worry if they show signs of bad temper. The same author also points out that lions can be extraordinarily touchy. Black objects usually upset them, and loose, flapping things drive them crazy, but they soon get used to airplanes and sometimes run to high ground to watch their passing. Some lions hate music and howl mournfully as long as it is played. They all have a great dislike of alcohol, and many a lion tamer has lost his life because he has approached his charges with its fumes on his breath. They are fascinated by automobiles and apparently regard them as harmless animals, but they sometimes show signs of the greatest terror at the sight of very small children, and they positively loathe domestic cats.

On the other hand, it has been found that to raise them successfully they must be reared with a puppy of the same age, to which, if it be a bright and amusing companion, they become inordinately attached. They never harm the dogs except by mistake, and then they give every evidence of distress by licking and fondling them. One full-grown tame lion permitted a tiny mouse to share its food every day, and was put to flight by a Bantam hen that defended her minute chicks by flying at the lion and pecking it on the nose.

It seems, in fact, that lions are just as full of fears, annoyances and surprises as we are. Their facial expressions are as varied as our own, and display the whole gamut of our emotions. Tame ones may be very affectionate and rub themselves against you like cats, but, if so inclined, they may completely ignore you. They are also great bluffers. One man who mingles with wild lions freely and persistently, avows that when you are used to them, you need have no fear of their charge. He says further that, except in the daytime, and unless they have been provoked, they always stop short at a few yards, and then wander off, pretending that they were only playing or giving fair warning. He says the only thing they really hate is being stared at.

Many kinds of lions have been described, but apart from the fact that an expert can pick the skull of an Indian lion from among those of African lions, there are no real racial differences. The biggest lions are said to have come from Algeria and the Cape, and one from the former region measured almost ten feet, eight inches from nose to tail tip, but they vary in size in various localities, and the limits are the same everywhere.

A large lion measures more than ten feet, of which about a third is tail, and

(*Continued on Page 42*)

THE MISUNDERSTOOD MONARCH

(Continued from Page 39)

stands three and a half feet at the shoulder, though one standing over four feet was measured. Lionesses are smaller, measuring at most a little more than nine feet and weighing slightly in excess of 300 pounds. Large males have been killed weighing almost 600 pounds and having an arm girth of twenty inches.

They vary enormously in color from very pale dun to yellow, grayish or rusty red, and the males may or may not have manes. The color of the lion's mane also varies from black to pale yellowish fawn, but this is purely fortuitous, like brunet and blond beards on men. None of these variations is racial or regional or has anything to do with environment. Cubs from the same litter may develop with black or pale manes, or without any. Cubs of maneless lions may grow luxuriant ruffs in captivity. Manes, moreover, are not worn off by thorn bushes, as is often said, though the animals do lose great tufts of hair when forcing their way through such undergrowth.

Not so long ago, lions, because of their color, were thought to be desert animals, and absolutely to avoid the real forests. Both beliefs are ill-founded. Lions do not customarily dwell in deserts, but they can live in them for long periods. In the Sudan they are found scores of miles from water, where they apparently maintain life by drinking the blood of their kills, and possibly by eating the large wild watermelons, as do the local jackals and hyenas.

Similarly, lions prefer the open bush to the tall, moist, close-canopy forest, but they don't always avoid the latter. The first wild lion I met was in the densest, wettest forest I have ever seen, miles from open country. We met face to face at a large tree bole, and I was armed with only a butterfly net. Having been brought up on zoological textbooks, I was not only surprised but utterly terrified. The lion, which, incidentally, had a fine mane, happily behaved like a real lion and not according to the textbooks. He bolted first.

Lions prefer open woods and light jungle, savannas with thorn trees and tall grass, and rocky hills; they are especially fond of reed beds, in which they sometimes make semipermanent lairs, many together. By day they love to rest on high places where they can survey the country and doze. They do not live in caves unless there happens to be an inviting one handy on a hot day and, contrary to popular opinion, they avoid open plains as far as possible, because there is no shade.

The coloration of lions is highly protective in sere, yellowish bush, and they can conceal themselves in grass when it is only about a foot high, where a fox terrier would stick out like the football on a gridiron. They are probably the best camouflaged of all large animals, but except when hunting they often do not bother to conceal themselves at all. They usually lie up in cover by day, sleeping on their backs, with their feet in the air, and snoring lustily, but sometimes they sit out in the open or even wander about among the game, which then pays them no heed.

One sportsman has described how, in an early-morning mist, he was riding through a herd of kongoni antelope when he noticed that the animals looked somehow odd, and suddenly realized that all except a few of them were lions. He counted twenty-five of the latter. One would hardly believe that a lion could be mistaken for an antelope, but all hunters will confirm that at a distance it is often extremely hard to dis-

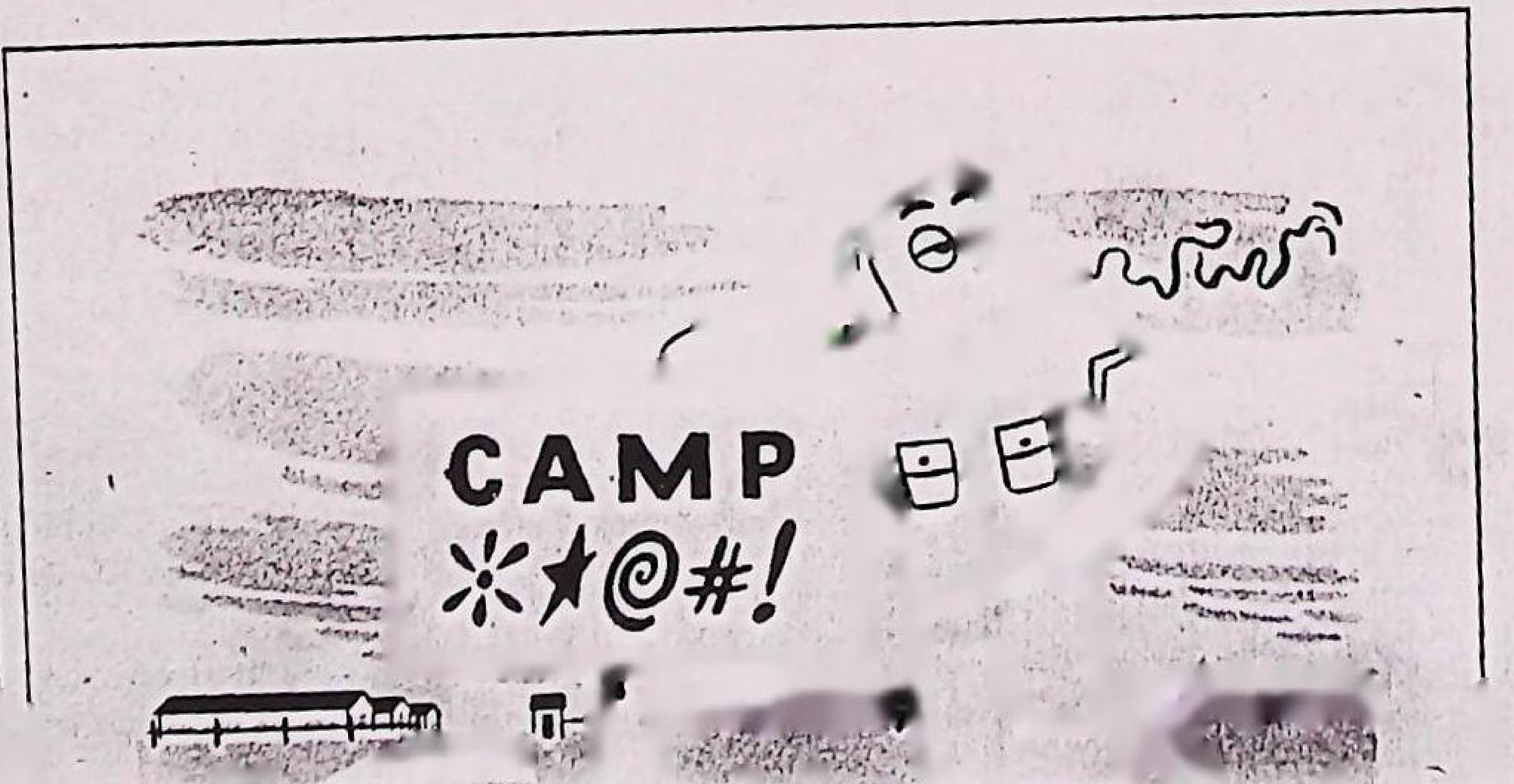
it dinner's end,
ien. Make a few
in. Step in again
hest, most deli-
d ever laid eyes
GOLD_PEPPER-
AM topped with
at's a dessert to
re's the golden
GOLD . . . plus
te-surprises (the
nt candy.) And
late-y delight of
convinced—and
dessert has ever
some CHOX in-
d some MEADOW
ICK ICE CREAM
not right!

Y?

icked up the
s any guest.
-fine quality
time. Then

MELET
ICHERO

1 tsp. salt
genized Milk
o or green
ge Cheese
er
he yolks with
pimiento or
tage cheese.
mbine cheese
butter. In a
e in and cook
. Set pan in
eat to brown
ter and serve
chero Sauce.



Page 42

E MISUNDERSTOOD MONARCH

(Continued from Page 39)

three and a half feet at th er, though one standing over et was measured. Lionesses are r, measuring at most a little than nine feet and weighing y in excess of 300 pounds. Large have been killed weighing al- 00 pounds and having an arm f twenty inches.

y vary enormously in color from ale dun to yellow, grayish or red, and the males may or may ve manes. The color of the lion's also varies from black to pale ish fawn, but this is purely for- , like brunet and blond beards n. None of these variations is or regional or has anything to h environment. Cubs from the itter may develop with black or manes, or without any. Cubs of ess lions may grow luxuriant n captivity. Manes, moreover, t worn off by thorn bushes, as is said, though the animals do lose tufts of hair when forcing their hrough such undergrowth.

so long ago, lions, because of color, were thought to be desert ls, and absolutely to avoid the rests. Both beliefs are ill-founded. do not customarily dwell in des- ut they can live in them for long ls. In the Sudan they are found of miles from water, where they ently maintain life by drinking ood of their kills, and possibly by the large wild watermelons, as local jackals and hyenas.

ilarly, lions prefer the open bush tall, moist, close-canopy forest, ey don't always avoid the latter. irst wild lion I met was in the densest, wettest forest I have ever seen, miles from open country. We met face to face at a large tree bole, and I was armed with only a butterfly net. Having been brought up on zoological textbooks, I was not only surprised but utterly terrified. The lion, which, incidentally, had a fine mane, happily behaved like a real lion and not according to the textbooks. He bolted first.

Lions prefer open woods and light jungle, savannas with thorn trees and tall grass, and rocky hills; they are especially fond of reed beds, in which they sometimes make semipermanent lairs, many together. By day they love to rest on high places where they can survey the country and doze. They do not live in caves unless there happens to be an inviting one handy on a hot day and, contrary to popular opinion, they avoid open plains as far as possible, because there is no shade.

The coloration of lions is highly protective in sere, yellowish bush, and they can conceal themselves in grass when it is only about a foot high, where a fox terrier would stick out like the football on a gridiron. They are probably the best camouflaged of all large animals, but except when hunting they often do not bother to conceal themselves at all. They usually lie up in cover by day, sleeping on their backs, with their feet in the air, and snoring lustily, but sometimes they sit out in the open or even wander about among the game, which then pays them no heed.

One sportsman has described how, in an early-morning mist, he was riding through a herd of kongoni antelope when he noticed that the animals looked somehow odd, and suddenly realized that all except a few of them were lions. He counted twenty-five of the latter. One would hardly believe that a lion could be mistaken for an antelope, but all hunters will confirm that at a distance it is often extremely hard to distinguish these animals from all kinds of other game, including even rhinoceroses.

P43

Lions have a habit of going about in parties, sometimes of considerable size. A Mr. McClure once counted no fewer than forty-six together in Kenya, and groups of thirty are not uncommon. There is endless discussion as to the proportion between males and females, some saying that there are seven lions to a lioness, others that one lion squires several wives. The whole business is complicated by the lion's habit of forming family parties. Cubs stay with their mother for two or three years, so that she may sometimes be followed by several almost-full-grown offspring, as well as by others of various sizes. Then lionesses gang up, one taking care of the cubs while the others hunt, thus dividing the labor. Also at certain times young lions may join these troops and, finally, old lionesses are often allowed to follow and partake of kills when they become too weak to hunt alone.

Lions are great travelers, sometimes following game for more than 100 miles. They love to walk along cleared paths made either by other animals or by men, and they positively dote on railway tracks, where they mince along from tie to tie or lie about for hours. They are sometimes a perfect pest on East African railways, where they travel from one water tank to another. Many have been the frantic phone calls from embattled railway clerks far up the line, reporting a troop of lions milling about outside their ticket offices after dark.

There is a popular notion that lions cannot climb trees, but no reliance should be placed on this textbook statement. One tame animal, even when full-grown, chased cats up perpendicular trees, and there are many cases of lions ascending to considerable heights when frightened. Most of them are tremendous jumpers and can clear ten- or twelve-foot fences. Their bounds have been measured at twenty-one feet, and one leap of more than forty feet is claimed.

Most people, even naturalists, who have not been to Africa do not believe that lions can get a dead cow out of a twelve-foot thorn enclosure. However, they can do better than this, and there are several authenticated cases of their having got camels out by literally hurling them up onto the hedge, then climbing up and hauling them down the other side. They will seize a large animal by the withers and, lifting the body off the ground and walking backward, drag it away with the head and legs trailing.

The lion's roar has impressed and mystified men since earliest times, but we are no nearer a solution of why they roar than were the ancients. It may be a method of keeping the troop together, a threat, a challenge or merely a form of exercise. Lions make a variety of noises, and the real roar is very much less common than is generally supposed. What most people think is roaring is only the louder and repeated form of the so-called grunt. One man who has lived in lion country for thirty years says he has heard real roaring only three times. I have heard it only once, and that in London after a fight in the lion house at the zoo near which we lived. I would not have believed that any animal could make such a noise, and I had been listening to lions grunting for [illegible]rs.

The roaring is done stan[illegible] up with the head lowered, and occ[illegible] only at night, and mostly before [illegible] hunting. It is a single drawn [illegible]note quite different from the in-and[illegible]two-note grunting which may better be called bellowing, and which so much resembles the mating rumpus of the male ostrich and fools so many novices. When hunting in pairs or troops, lions keep up a continuous low grunting which many people contend has ventriloquial properties. By this means the males drive the game slowly toward the females, which have been stationed down wind.

When hunting alone, they remain utterly silent and stalk their prey, belly to ground, in the most painstaking manner until within a short distance of the selected victim. They then rise quietly and start forward in a most tremendous rush and with such momentum that even the swiftest game hardly ever takes off quickly enough to escape.

The lion's favorite food is zebra, but they will take any game, the larger the better. They cannot kill full-grown elephants or rhinos, but they take their young when they can get them, and relish the meat, returning to it again and again. They sometimes gang up on giraffes and haul down a young one, but in this they have to be very circumspect, as the mother will sometimes fight, and a giraffe has been known to kick a lioness' head right off.

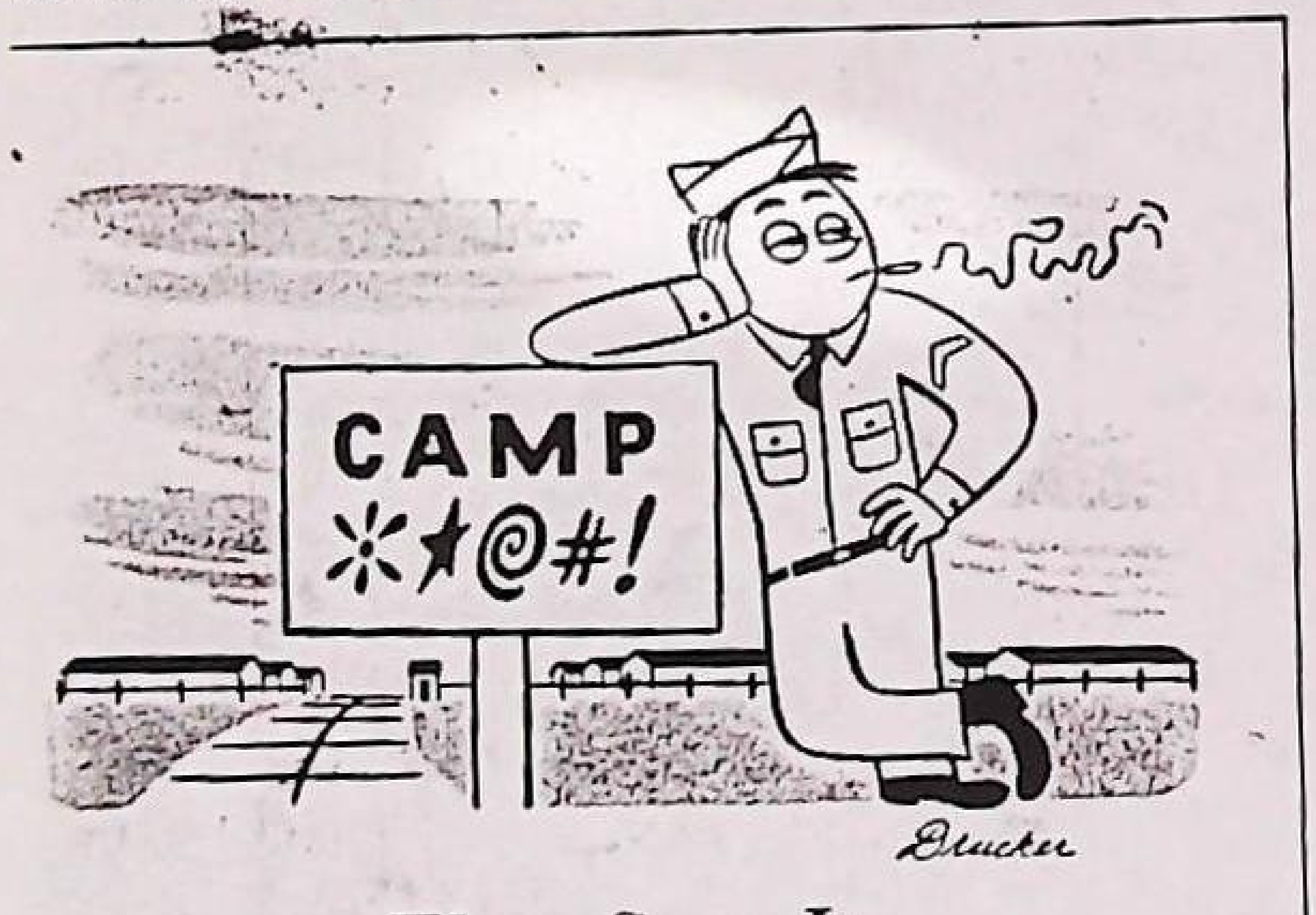
A few other animals are also dangerous to lions. The mild-looking and usually mild-mannered eland antelope may suddenly turn around and attack with its sharp corkscrew horns and its terrific tough, cloven front hoofs. Certain antelopes with rapier horns, like the gemsbok, may charge lions and completely impale them, and both protagonists then die together. Lions, like all carnivores, love porcupine meat, but they never seem to learn about these animals, for they have often been found with porcupine quills driven into their skins. Sometimes the quills work right through their necks or even into their hearts. There is one animal, however, that the lion never tackles.

A hunter was once sitting up by a kill at night in East Africa and heard several lions milling about in the dark. Switching on his light, he was amazed to see half a dozen of the great cats standing in a circle several feet from the dead animal, as if in obvious fear of going near it. In the middle of the circle a small animal sniffed unconcernedly about, picking up an occasional scrap. It was a zorilla, the African skunk. The lion never willingly molests this tiny beast, for its scent makes him drowsy and extremely sick, and may even, in the case of a direct hit, blind him.

It appears that a full-grown lion does not take much more than twenty pounds of meat at a meal. They do not crunch the bones, but scrape them clean with their rasplike tongues. At one time it was thought that every full-grown lion in Africa killed an animal every night, and early writers made fantastic computations of the destruction of game they caused. The best modern authorities, however, contend that at the most they make a kill only about every fourth day, and that they probably average little more than one a week.

Eric Wells, who has raised many lions in Africa and probably knows more about them than anybody else, says a full-grown lion eats only some 4000 pounds of meat a year, and he figures that since their favorite foods are wildebeest and zebra, which weigh 450 and 350 pounds respectively, one lion could live on ten to fifteen kills a year if the meat was kept from other animals.

Except when young and first discovering their powers, at which time everybody agrees they may become veritable hooligans, they do not kill more than



That Says It

A POST WAR ANECDOTE

WHILE traveling across a very dreary stretch of country, my bus stopped before an Army post. A single dejected-looking soldier stood beside the road, doing nothing and seeming to dislike it.

Another soldier, a passenger on the bus, leaned out the window and called to him, "Hey! What do you call this dried-up, broken-down, fever-ridden hell hole?"

The soldier beside the road pondered the question briefly, then said, "That's near enough."

—FRED BULLOCK.

The editors cannot make individual reports on war-anecdote submissions, and manuscripts are not being returned. Payment of one hundred dollars is made for accepted anecdotes, within about thirty days of a manuscript's receipt.

Page 44

FULTON
O ACCESSORIES
Greater Safety,
fort, Convenience

IGHT FINDER

Plastic lens bends light rays into driver's vision. Mounts inside windshield with rubber vacuum-cup. Price $1.00

GLARE-SHIELD

Eliminates rear view mirror glare at night. Flips up for daytime driving. Made of tough plastic, quickly installed without tools. Price 79¢

they need. However, one lion killed more than fifty ostriches in a night, and another got into a pig farm and killed 100 animals. They are very fond of ostrich meat, but rarely catch the birds in the open, except hens sitting on eggs. They have, however, been known to make concerted attacks on ostrich farms, and one Englishwoman, alone on her farm, had the terrifying experience of being besieged for five days by an ever-increasing troop of lions.

There appears to be no fixed breeding season, either in the wild or in captivity. To mate, a pair of lions go off alone and stay together for some time, during which they do not hunt or eat. The lioness becomes very coy, but the lion rather ridiculous and crotchety, and they are then particularly ill-disposed toward other lions. Terrific fights sometimes occur, usually ending in death for one of the contestants.

The lioness selects with great care a lair in which to bear her young, usually near water. The period of gestation is, on an average, 109 days. In some parts of Africa two litters have been recorded in one year, but usually there is a pause of about eighteen months between litters.

The cubs are minute, being about the size of a man's hand and weighing only a pound. They are weaned at about six months, but they are given round bones with a little meat to gnaw on at six weeks. Four cubs is a normal litter, but six have been known in captivity. Usually only two or three survive, and the mortality is high, especially among males, between nine months and a year of age. The cubs are fluffy-furred and vary enormously in color, size and shape, even in the same litter. One man who has raised many has aptly said that they often look stuffed. They are usually spotted about the head, back and flanks, and sometimes so heavily that the spots run into lines like those of tigers. This spotting may persist throughout life, to a greater or lesser extent.

The young lions are not even taught to kill for themselves until nearly two years old, and their first attempts are clumsy and usually quite ineffective. Once they have mastered the art, aided by prolonged coaching on the part of the mother, who herds the game and even runs it down for them, so that they can make easy kills, they wander off by themselves. They may remain alone for several years before acquiring a mate. They seem to pair for life, but the lion leaves his mate after the cubs are born, and may stay away for many months. However, he may bring back new females after his wanderings, and he then has to maintain his superiority over all contestants, including his own sons.

Lions have lived in captivity for more than twenty years and remained in perfect condition. Their longevity in the wild state is not known, but African villagers of advanced age sometimes contend that a particular lion, recognizable by some distinguishing mark, has been in the neighborhood since their youth. This, combined with the great care they bestow upon their cubs and the long period of education they give them, may account for the lion's prevalence and for his having stood his ground in tropical Africa.

At times, lions have become real pests in some areas. This occurred a few years ago when they took to marauding in the outskirts of the towns in Kenya, and one was met wandering down a main street of Nairobi. They are kept down in some districts with traps and poison, but in others they are now wholly or partially protected.

Despite an almost continuous expenditure of effort on the part of men over some thousands of years, the lion has never become domesticated. Hundreds of tame lions were kept by potentates in ancient times in many countries, but although they bred in captivity, the stock always declined. Castrated lions were kept in the temples of Amen-Ra in ancient Egypt, and particularly sweet melodies were played to them by vestal virgins. The priests of Cybele, in Asia Minor, who were mendicant friars, traveled with tame lions, which they employed to exorcise evil spirits and to effect other supposed cures. The Persians regarded them as very sacred and kept them in their palaces and in huge game reserves.

Nevertheless, they were also tamed and trained to hunt and to fight in war. Rameses II of Egypt had a favorite war lion named Anta-m-nekht, which went into battle walking beside the horses of the Pharaoh's chariot, and Assyrian monarchs fought surrounded by half a dozen lions on long chains. These Assyrian lions were cropped in a remarkable manner to look more fantastic, a practice that was later transferred to certain dogs, and which persists today in the traditional ornamentation of their descendents, the poodles.

In the year 186 B.C., Marcus Fulvius Nobilior took a number of lions from Northern Greece and exhibited them in the amphitheater at Rome. They were an immediate popular success, and hundreds were subsequently acquired from the palaces and sacred menageries of Egypt, Mesopotamia and other African and Asiatic countries. Julius Caesar gave 400 lions and the first giraffe ever seen in Europe to the circus, as it was then called. Pompey went one better and gave 600, together with the first rhinoceros.

When, however, the Romans began throwing Christians to the lions, this practically divine beast acquired a new reputation in which horror and fascination were strangely combined, and, like the circus, this has persisted until today.

THE END

MEDDLING WOMAN

(Continued from Page 29)

Miss Peters made herself very convincing. "I'll grant you that," she said. "There are also a lot of women, single and fancy-free and looking for hus-

"Pigs, darling. The mamma pigs were about to have little pigs, so I stayed and saw them through the crisis."

"Then you sold them a Continental tractor?"

"Well . . . no. They already had a Power Mule. It was broke down, but I overhauled it for them. Runs like new

their hands on their laps, their faces turned toward the unproductive fields beyond the barn.

"Good morning," said Gary. "My name is Holloway. I represent Continental tractors. Looks like you could use a tractor around here."

"We sure could," agreed Mr. Haw-

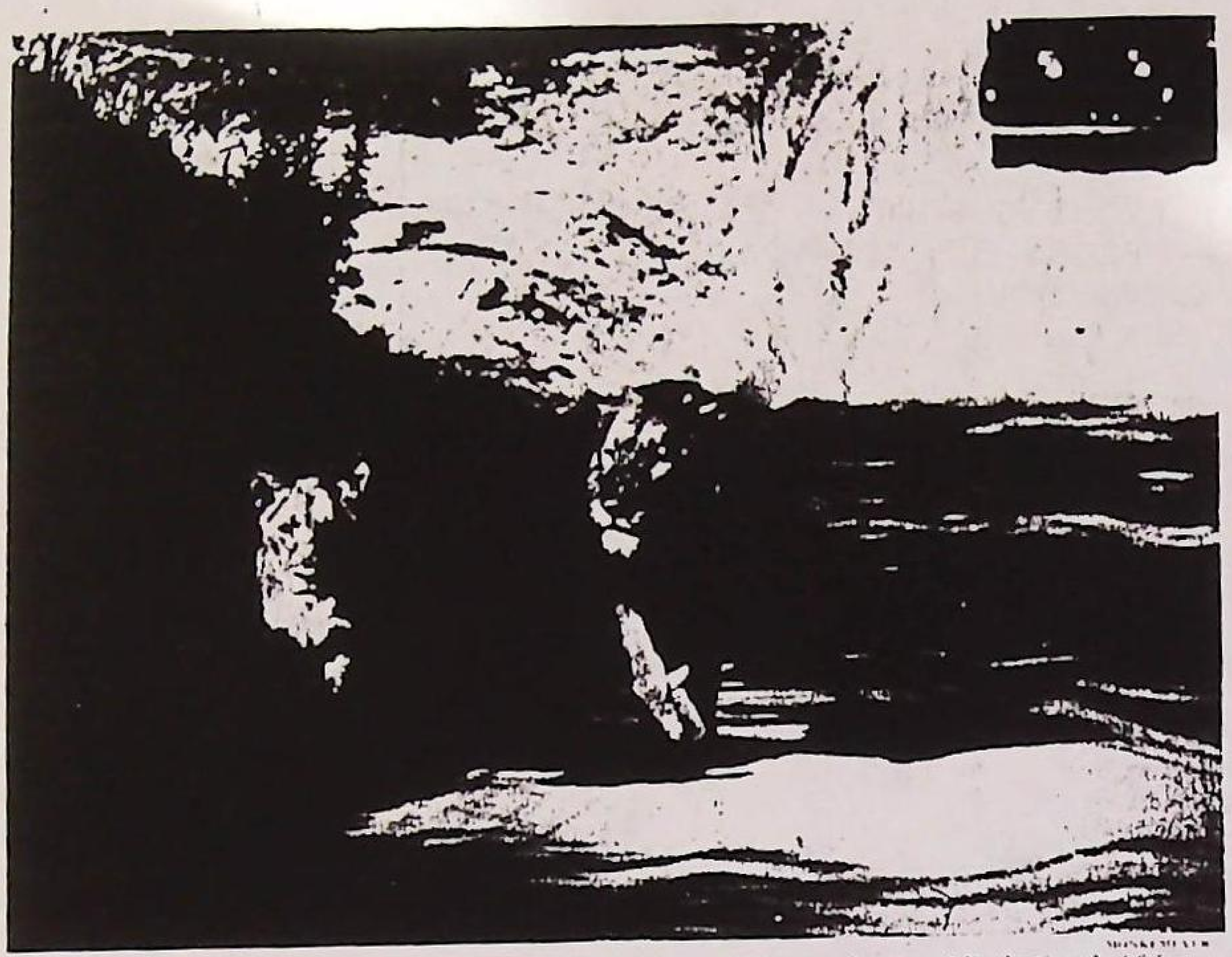
"Grandp
un

"Next to talking
couldn't pry hi
Then we got t
about that wo
what?' snorted

"It wasn't easy,
plenty wary w
Grandpa,' I told
Yes, that seat
cushioning mat
slight extra cost

Sat Eve Post Aug 28, 1948 page 39
Saturday Evening Post

MAGAZINE: THE SATURDAY EVENING POST -- DATE: 28 AUGUST 1948
VOLUME 221, NUMBER 9 -- PAGE: 39, 42-44.
ARTICLE: THE MISUNDERSTOOD MONARCH
AUTHOR: IVAN T. SANDERSON
THIS IS PAGE: 39



A king of the beasts and his mate stroll haughtily through Kruger National Park, South Africa.

The Misunderstood Monarch

By IVAN T. SANDERSON

The one safe prediction about lions, says the author, is that they will always be unpredictable. These regal individualists dote on airplanes, hats and railroad tracks, loathe children and alcohol—and may either roll over at your feet or eat you alive.

THERE has always been a certain affinity and mutual respect between men and lions. Men refer to the lion as the king of beasts; we don't know what lions call us, but their expressions when in our presence seem to indicate that they regard us with the utmost indifference. This seems to have intrigued the kings of men since earliest times, so that the lion has become a regal creature in more senses than one.

Actually, lions are extraordinarily like men in character. Chimpanzees may be more horribly like us in appearance and mentality, and dogs may have a greater understanding of our whims, but neither of these creatures has the depth of character displayed by the lion. Physically they are very strong animals, and they appear to appreciate this fact, so that they literally tread warily when among small friends. On the other hand, they are often greatly puzzled by the unending succession of difficulties and annoyances that is life. Like men, they put on a great front and, if their amazingly expressive eyes really indicate their inner feelings, there is no doubt that they suffer from as many [illegible]strations and perhaps even neuroses as we do. [illegible] inner worries, moreover, appear to mount [illegible]ect proportion to the complexity of their ind[illegible]ual lives. The few people who know lions intima[illegible] both in captivity and in the wild, contend that they are even less predictable in the former estate.

There are no hard-and-fast rules about lions, for they are creatures without rules and, therefore, almost invariably exceptional in their behavior. Those who really know them concur in the opinion that in dealing with them you can be certain of only one thing that you never can be certain what they will do. They are the greatest individualists in the animal world, and individualists are never popular, which perhaps accounts for their being so misunderstood. The more one learns about lions, however, the more utterly bewildered one tends to become.

A party of hunters in East Africa once saw a group of lions enter some bushes and, being without natives to drive them out, climbed the trees around to await their exit. When the lions failed to come out after a long time, a Dutchman who lived in the country climbed down, and seeing the back end of a large lion sticking out of a bush, gave its posterior a hefty kick. The lion merely squeaked and wriggled farther into the bush, like a beaten cur. On another occasion a man woke up one night to find a large lion in his tent, dragging down his mosquito net. He gave it a punch on the nose and it immediately bolted straight out of camp. My father, who had developed a practice of photographing wild lions in the daytime on his farm in Kenya, once decided to try to touch one. When he reached out to stroke its head, the animal lay down, rolled over on its back and purred.

Conversely, lions may attack on sight, even in daylight. At night they seem to regard human beings as legitimate prey, and they have even entered railway carriages and carried off full-grown men. Only experience, learned over generations, of the exceedingly brave natives where they live prevents them from making a regular practice of hunting men. This is the opinion of C. R. Pitman, the famous game warden of Uganda, who has spent a lifetime keeping down the lion population of his territory and helping to rid it of man-eaters. When they do take to man-eating, they become exceedingly dangerous and terrifyingly cunning, and the practice may become epidemic through some lioness teaching her cubs that men are vulnerable.

One man-eater was known to have killed eighty-four people before it was trapped. Another made a practice of traveling with a herd of elephants, not so much for protection as because of his realization that men were always coming to drive the elephants away from their crops, and the elephants, with their acute sense of smell and hearing, gave the lion early warning of the men's approach. On the whole, however, man-eating is rare in Africa, considering the enormous numbers of lions and natives in the districts where they live. This is probably due to the fearless way in which the Africans set about killing any that molest them or their flocks.

Several people who have kept tame lions have remarked on their inordinate fondness for hats, with which they will play for hours. Eric Wells, who plays with wild lions, believe it or not, says that he gives them an old hat to worry if they show signs of bad temper. The same author also points out that lions can be extraordinarily touchy. Black objects usually upset them, and loose, flapping things drive them crazy, but they soon get used to airplanes and sometimes run to high ground to watch their passing. Some lions hate music and howl mournfully as long as it is played. They all have a great dislike of alcohol, and many a lion tamer has lost his life because he has approached his charges with its fumes on his breath. They are fascinated by automobiles and apparently regard them as harmless animals, but they sometimes show signs of the greatest terror at the sight of very small children, and they positively loathe domestic cats.

On the other hand, it has been found that to raise them successfully they must be reared with a puppy of the same age, to which, if it be a bright and amusing companion, they become inordinately attached. They never harm the dogs except by mistake, and then they give every evidence of distress by licking and fondling them. One full-grown tame lion permitted a tiny mouse to share its food every day, and was put to flight by a Bantam hen that defended her minute chicks by flying at the lion and pecking it on the nose.

It seems, in fact, that lions are just as full of fears, annoyances and surprises as we are. Their facial expressions are as varied as our own, and display the whole gamut of our emotions. Tame ones may be very affectionate and rub themselves against you like cats, but, if so inclined, they may completely ignore you. They are also great bluffers. One man who mingles with wild lions freely and persistently, avows that when you are used to them, you need have no fear of their charge. He says further that, except in the daytime, and unless they have been provoked, they always stop short at a few yards, and then wander off, pretending that they were only playing or giving fair warning. He says the only thing they really hate is being stared at.

Many kinds of lions have been described, but apart from the fact that an expert can pick the skull of an Indian lion from among those of African lions, there are no real racial differences. The biggest lions are said to have come from Algeria and the Cape, and one from the former region measured almost ten feet, eight inches from nose to tail tip, but they vary in size in various localities, and the limits are the same everywhere.

A large lion measures more than ten feet, of which about a third is tail, and

(Continued on Page 42)

THE MISUNDERSTOOD MONARCH

(Continued from Page 39)

stands three and a half feet at the shoulder, though one standing over four feet was measured. Lionesses are smaller, measuring at most a little more than nine feet and weighing slightly in excess of 300 pounds. Large males have been killed weighing almost 600 pounds and having an arm girth of twenty inches.

They vary enormously in color from very pale dun to yellow, grayish or rusty red, and the males may or may not have manes. The color of the lion's mane also varies from black to pale yellowish fawn, but this is purely fortuitous, like brunet and blond beards on men. None of these variations is racial or regional or has anything to do with environment. Cubs from the same litter may develop with black or pale manes, or without any. Cubs of maneless lions may grow luxuriant ruffs in captivity. Manes, moreover, are not worn off by thorn bushes, as is often said, though the animals do lose great tufts of hair when forcing their way through such undergrowth.

Not so long ago, lions, because of their color, were thought to be desert animals, and absolutely to avoid the real forests. Both beliefs are ill-founded. Lions do not customarily dwell in deserts, but they can live in them for long periods. In the Sudan they are found scores of miles from water, where they apparently maintain life by drinking the blood of their kills, and possibly by eating the large wild watermelons, as do the local jackals and hyenas.

Similarly, lions prefer the open bush to the tall, moist, close-canopy forest, but they don't always avoid the latter. The first wild lion I met was in the densest, wettest forest I have ever seen, miles from open country. We met face to face at a large tree bole, and I was armed with only a butterfly net. Having been brought up on zoological textbooks, I was not only surprised but utterly terrified. The lion, which, incidentally, had a fine mane, happily behaved like a real lion and not according to the textbooks. He bolted first.

Lions prefer open woods and light jungle, savannas with thorn trees and tall grass, and rocky hills; they are especially fond of reed beds, in which they sometimes make semipermanent lairs, many together. By day they love to rest on high places where they can survey the country and doze. They do not live in caves unless there happens to be an inviting one handy on a hot day and, contrary to popular opinion, they avoid open plains as far as possible, because there is no shade.

The coloration of lions is highly protective in sere, yellowish bush, and they can conceal themselves in grass when it is only about a foot high, where a fox terrier would stick out like the football on a gridiron. They are probably the best camouflaged of all large animals, but except when hunting they often do not bother to conceal themselves at all. They usually lie up in cover by day, sleeping on their backs, with their feet in the air, and snoring lustily, but sometimes they sit out in the open or even wander about among the game, which then pays them no heed.

One sportsman has described how, in an early-morning mist, he was riding through a herd of kongoni antelope when he noticed that the animals looked somehow odd, and suddenly realized that all except a few of them were lions. He counted twenty-five of the latter. One would hardly believe that a lion could be mistaken for an antelope, but all hunters will confirm that at a distance it is often extremely hard to dis-

ıt dinner's end,
ıen. Make a few
ın. Step in again
hest, most deli-
d ever laid eyes
GOLD_PEPPER-
ıM topped with
ıt's a dessert to
re's the golden
GOLD . . . plus
te-surprises (the
nt candy.) And
late-y delight of
convinced—and
dessert has ever
some CHOX in-
d some MEADOW
ICK ICE CREAM
not right!

Y?

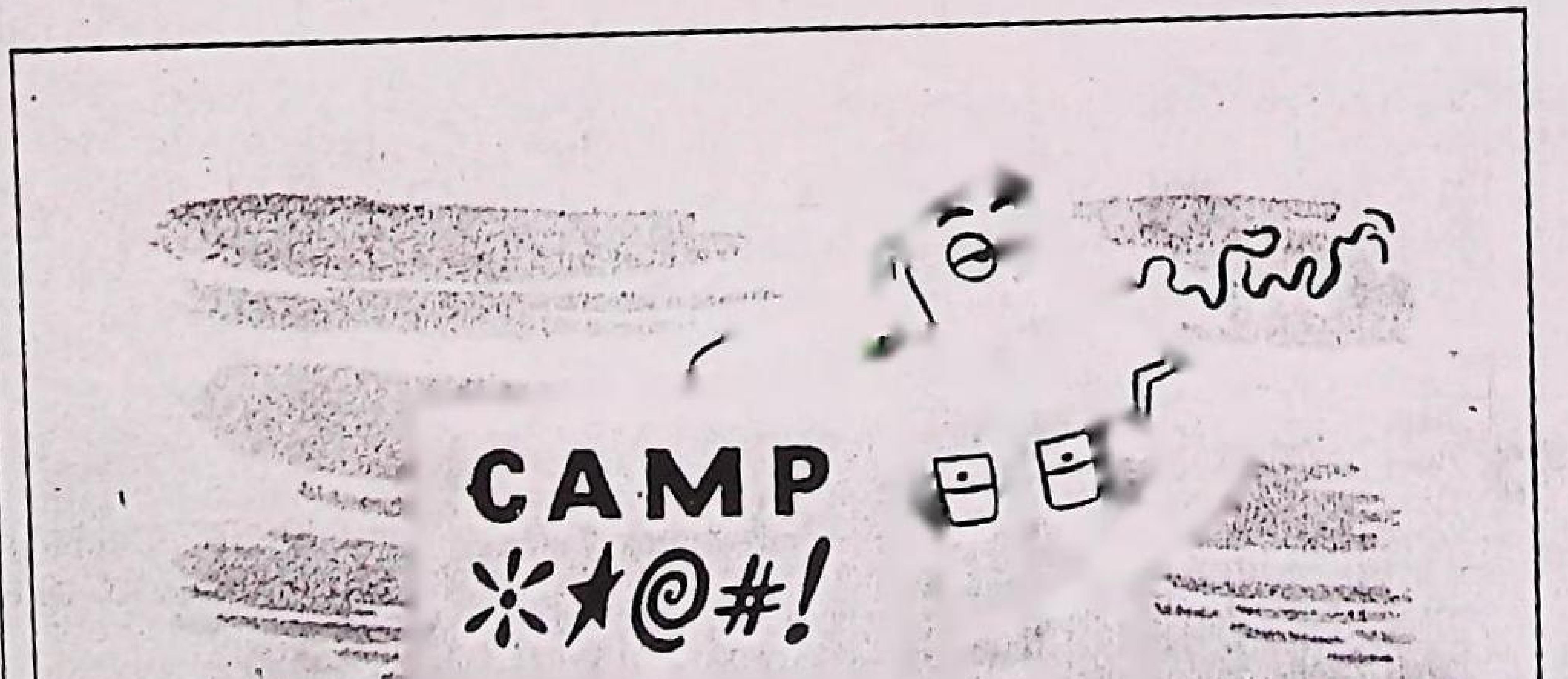
icked up the
s any guest.
-fine quality
time. Then

MELET
ICHERO

1 tsp. salt
enized Milk
o or green

ge Cheese
er

he yolks with
pimiento or
tage cheese.
mbine cheese
butter in a
e in and cook
. Set pan in
eat to brown
ter and serve
chero Sauce.



E MISUNDERSTOOD MONARCH

(Continued from Page 39)

three and a half feet at th er, thou[illegible] one standing over et was [illegible]ured. Lionesses are r, measuring at most a little than nine feet and weighing y in excess of 300 pounds. Large have been killed weighing al- 00 pounds and having an arm f twenty inches.

y vary enormously in color from ale dun to yellow, grayish or red, and the males may or may ve manes. The color of the lion's also varies from black to pale sh fawn, but this is purely for- , like brunet and blond beards n. None of these variations is or regional or has anything to h environment. Cubs from the itter may develop with black or manes, or without any. Cubs of ess lions may grow luxuriant n captivity. Manes, moreover, t worn off by thorn bushes, as is said, though the animals do lose tufts of hair when forcing their rough such undergrowth.

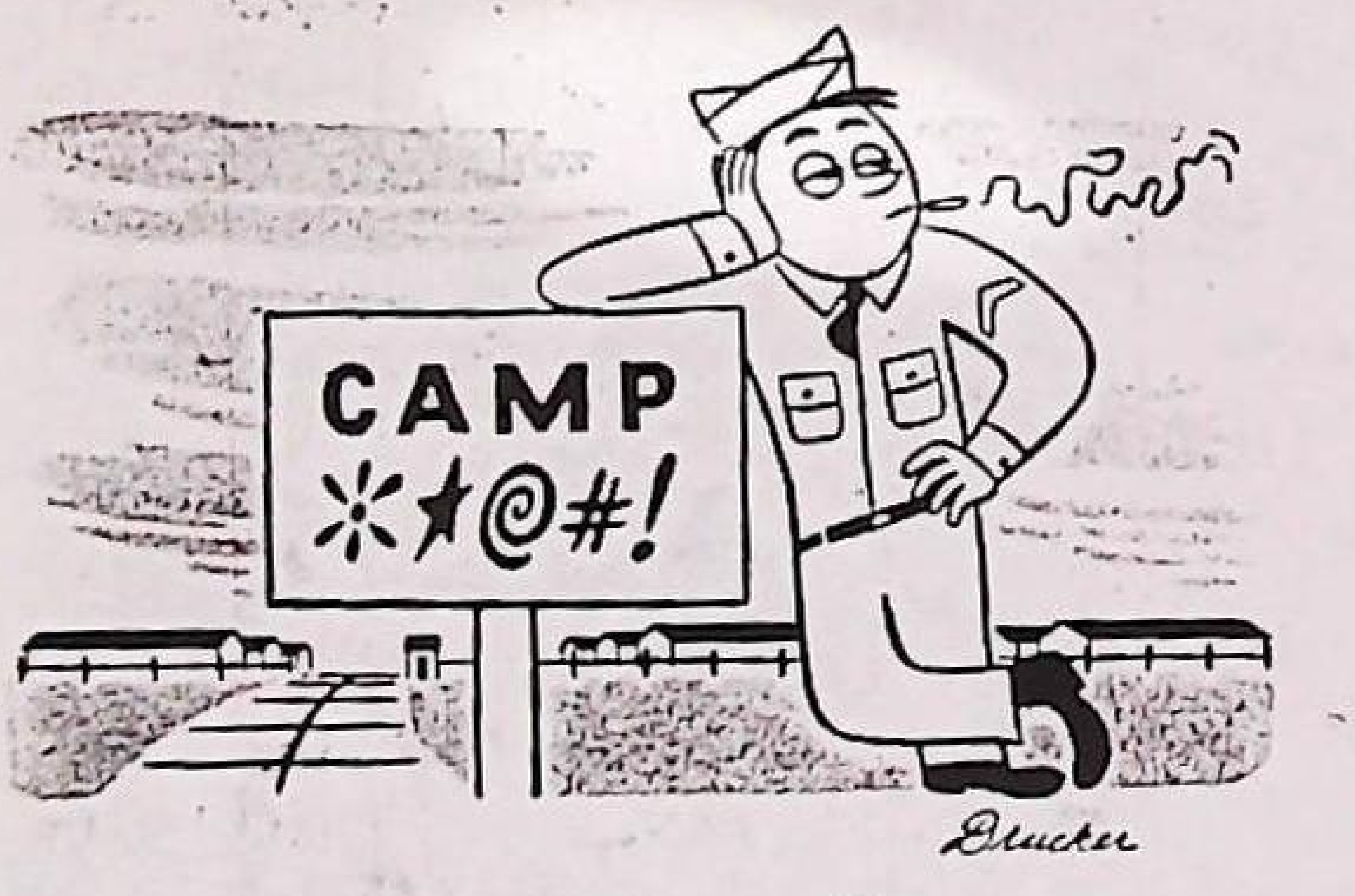
so long ago, lions, because of olor, were thought to be desert ls, and absolutely to avoid the rests. Both beliefs are ill-founded. do not customarily dwell in des- ut they can live in them for long ls. In the Sudan they are found of miles from water, where they ently maintain life by drinking ood of their kills, and possibly by the large wild watermelons, as local jackals and hyenas.

ilarly, lions prefer the open bush tall, moist, close-canopy forest, ey don't always avoid the latter. irst wild lion I met was in the densest, wettest forest I have ever seen, miles from open country. We met face to face at a large tree bole, and I was armed with only a butterfly net. Having been brought up on zoological textbooks, I was not only surprised but utterly terrified. The lion, which, incidentally, had a fine mane, happily behaved like a real lion and not according to the textbooks. He bolted first.

Lions prefer open woods and light jungle, savannas with thorn trees and tall grass, and rocky hills; they are especially fond of reed beds, in which they sometimes make semipermanent lairs, many together. By day they love to rest on high places where they can survey the country and doze. They do not live in caves unless there happens to be an inviting one handy on a hot day and, contrary to popular opinion, they avoid open plains as far as possible, because there is no shade.

The coloration of lions is highly protective in sere, yellowish bush, and they can conceal themselves in grass when it is only about a foot high, where a fox terrier would stick out like the football on a gridiron. They are probably the best camouflaged of all large animals, but except when hunting they often do not bother to conceal themselves at all. They usually lie up in cover by day, sleeping on their backs, with their feet in the air, and snoring lustily, but sometimes they sit out in the open or even wander about among the game, which then pays them no heed.

One sportsman has described how, in an early-morning mist, he was riding through a herd of kongoni antelope when he noticed that the animals looked somehow odd, and suddenly realized that all except a few of them were lions. He counted twenty-five of the latter. One would hardly believe that a lion could be mistaken for an antelope, but all hunters will confirm that at a distance it is often extremely hard to distinguish these animals from all kinds of other game, including even rhinoceroses.



That Says It

A POST WAR ANECDOTE

WHILE traveling across a very dreary stretch of country, my bus stopped before an Army post. A single dejected-looking soldier stood beside the road, doing nothing and seeming to dislike it.

Another soldier, a passenger on the bus, leaned out the window and called to him, "Hey! What do you call this dried-up, broken-down, fever-ridden hell hole?"

The soldier beside the road pondered the question briefly, then said, "That's near enough."

—FRED BULLOCK.

The editors cannot make individual reports on war-anecdote submissions, and manuscripts are not being returned. Payment of one hundred dollars is made for accepted anecdotes, within about thirty days of a manuscript's receipt.

Lions have a habit of going about in parties, sometimes of considerable size. A Mr. McClure once counted no fewer than forty-six together in Kenya, and groups of thirty are not uncommon. There is endless discussion as to the proportion between males and females, some saying that there are seven lions to a lioness, others that one lion squires several wives. The whole business is complicated by the lion's habit of forming family parties. Cubs stay with their mother for two or three years, so that she may sometimes be followed by several almost-full-grown offspring, as well as by others of various sizes. Then lionesses gang up, one taking care of the cubs while the others hunt, thus dividing the labor. Also at certain times young lions may join these troops and, finally, old lionesses are often allowed to follow and partake of kills when they become too weak to hunt alone.

Lions are great travelers, sometimes following game for more than 100 miles. They love to walk along cleared paths made either by other animals or by men, and they positively dote on railway tracks, where they mince along from tie to tie or lie about for hours. They are sometimes a perfect pest on East African railways, where they travel from one water tank to another. Many have been the frantic phone calls from embattled railway clerks far up the line, reporting a troop of lions milling about outside their ticket offices after dark.

There is a popular notion that lions cannot climb trees, but no reliance should be placed on this textbook statement. One tame animal, even when full-grown, chased cats up perpendicular trees, and there are many cases of lions ascending to considerable heights when frightened. Most of them are tremendous jumpers and can clear ten- or twelve-foot fences. Their bounds have been measured at twenty-one feet, and one leap of more than forty feet is claimed.

Most people, even naturalists, who have not been to Africa do not believe that lions can get a dead cow out of a twelve-foot thorn enclosure. However, they can do better than this, and there are several authenticated cases of their having got camels out by literally hurling them up onto the hedge, then climbing up and hauling them down the other side. They will seize a large animal by the withers and, lifting the body off the ground and walking backward, drag it away with the head and legs trailing.

The lion's roar has impressed and mystified men since earliest times, but we are no nearer a solution of why they roar than were the ancients. It may be a method of keeping the troop together, a threat, a challenge or merely a form of exercise. Lions make a variety of noises, and the real roar is very much less common than is generally supposed. What most people think is roaring is only the louder and repeated form of the so-called grunt. One man who has lived in lion country for thirty years says he has heard real roaring only three times. I have heard it only once, and that in London after a fight in the lion house at the zoo near which we lived. I would not have believed that any animal could make such a noise, and I had been listening to lions grunting for [illegible]rs.

The roaring is done stan[illegible] up with the head lowered, and occ[illegible] only at night, and mostly before [illegible] hunting. It is a single drawn [illegible]ote quite different from the in-and [illegible]wo-note grunting which may better be called bellowing, and which so much resembles the mating rumpus of the male ostrich and fools so many novices. When hunting in pairs or troops, lions keep up a continuous low grunting which many people contend has ventriloquial properties. By this means the males drive the game slowly toward the females, which have been stationed down wind.

When hunting alone, they remain utterly silent and stalk their prey, belly to ground, in the most painstaking manner until within a short distance of the selected victim. They then rise quietly and start forward in a most tremendous rush and with such momentum that even the swiftest game hardly ever takes off quickly enough to escape.

The lion's favorite food is zebra, but they will take any game, the larger the better. They cannot kill full-grown elephants or rhinos, but they take their young when they can get them, and relish the meat, returning to it again and again. They sometimes gang up on giraffes and haul down a young one, but in this they have to be very circumspect, as the mother will sometimes fight, and a giraffe has been known to kick a lioness' head right off.

A few other animals are also dangerous to lions. The mild-looking and usually mild-mannered eland antelope may suddenly turn around and attack with its sharp corkscrew horns and its terrific tough, cloven front hoofs. Certain antelopes with rapier horns, like the gemsbok, may charge lions and completely impale them, and both protagonists then die together. Lions, like all carnivores, love porcupine meat, but they never seem to learn about these animals, for they have often been found with porcupine quills driven into their skins. Sometimes the quills work right through their necks or even into their hearts. There is one animal, however, that the lion never tackles.

A hunter was once sitting up by a kill at night in East Africa and heard several lions milling about in the dark. Switching on his light, he was amazed to see half a dozen of the great cats standing in a circle several feet from the dead animal, as if in obvious fear of going near it. In the middle of the circle a small animal sniffed unconcernedly about, picking up an occasional scrap. It was a zorilla, the African skunk. The lion never willingly molests this tiny beast, for its scent makes him drowsy and extremely sick, and may even, in the case of a direct hit, blind him.

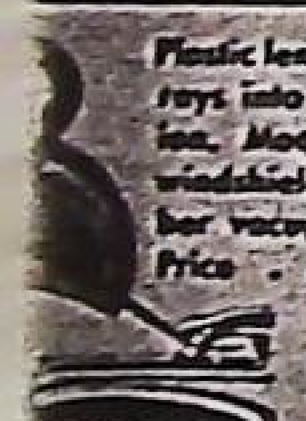
It appears that a full-grown lion does not take much more than twenty pounds of meat at a meal. They do not crunch the bones, but scrape them clean with their rasplike tongues. At one time it was thought that every full-grown lion in Africa killed an animal every night, and early writers made fantastic computations of the destruction of game they caused. The best modern authorities, however, contend that at the most they make a kill only about every fourth day, and that they probably average little more than one a week.

Eric Wells, who has raised many lions in Africa and probably knows more about them than anybody else, says a full-grown lion eats only some 4000 pounds of meat a year, and he figures that since their favorite foods are wildebeest and zebra, which weigh 450 and 350 pounds respectively, one lion could live on ten to fifteen kills a year if the meat was kept from other animals.

Except when young and first discovering their powers, at which time everybody agrees they may become veritable hooligans, they do not kill more than

Page 44

FULTON
O ACCESSORIES
Greater Safety,
fort, Convenience
LIGHT FINDER
Plastic lens bends light rays into driver's vision. Mounts inside windshield with rubber vacuum-cup. Price $1.00
GLARE-SHIELD
Eliminates rear view mirror glare at night. Flips up for daytime driving. Made of tough plastic, quickly installed without tools. Price 79¢



they need. However, one lion killed more than fifty ostriches in a night, and another got into a pig farm and killed 100 animals. They are very fond of ostrich meat, but rarely catch the birds in the open, except hens sitting on eggs. They have, however, been known to make concerted attacks on ostrich farms, and one Englishwoman, alone on her farm, had the terrifying experience of being besieged for five days by an ever-increasing troop of lions.

There appears to be no fixed breeding season, either in the wild or in captivity. To mate, a pair of lions go off alone and stay together for some time, during which they do not hunt or eat. The lioness becomes very coy, but the lion rather ridiculous and crotchety, and they are then particularly ill-disposed toward other lions. Terrific fights sometimes occur, usually ending in death for one of the contestants.

The lioness selects with great care a lair in which to bear her young, usually near water. The period of gestation is, on an average, 109 days. In some parts of Africa two litters have been recorded in one year, but usually there is a pause of about eighteen months between litters.

The cubs are minute, being about the size of a man's hand and weighing only a pound. They are weaned at about six months, but they are given round bones with a little meat to gnaw on at six weeks. Four cubs is a normal litter, but six have been known in captivity. Usually only two or three survive, and the mortality is high, especially among males, between nine months and a year of age. The cubs are fluffy-furred and vary enormously in color, size and shape, even in the same litter. One man who has raised many has aptly said that they often look stuffed. They are usually spotted about the head, back and flanks, and sometimes so heavily that the spots run into lines like those of tigers. This spotting may persist throughout life, to a greater or lesser extent.

The young lions are not even taught to kill for themselves until nearly two years old, and their first attempts are clumsy and usually quite ineffective. Once they have mastered the art, aided by prolonged coaching on the part of the mother, who herds the game and even runs it down for them, so that they can make easy kills, they wander off by themselves. They may remain alone for several years before acquiring a mate. They seem to pair for life, but the lion leaves his mate after the cubs are born, and may stay away for many months. However, he may bring back new females after his wanderings, and he then has to maintain his superiority over all contestants, including his own sons.

Lions have lived in captivity for more than twenty years and remained in perfect condition. Their longevity in the wild state is not known, but African villagers of advanced age sometimes contend that a particular lion, recognizable by some distinguishing mark, has been in the neighborhood since their youth. This, combined with the great care they bestow upon their cubs and the long period of education they give them, may account for the lion's prevalence and for his having stood his ground in tropical Africa.

At times, lions have become real pests in some areas. This occurred a few years ago when they took to marauding in the outskirts of the towns in Kenya, and one was met wandering down a main street of Nairobi. They are kept down in some districts with traps and poison, but in others they are now wholly or partially protected.

Despite an almost continuous expenditure of effort on the part of men over some thousands of years, the lion has never become domesticated. Hundreds of tame lions were kept by potentates in ancient times in many countries, but although they bred in captivity, the stock always declined. Castrated lions were kept in the temples of Amen-Ra in ancient Egypt, and particularly sweet melodies were played to them by vestal virgins. The priests of Cybele, in Asia Minor, who were mendicant friars, traveled with tame lions, which they employed to exorcise evil spirits and to effect other supposed cures. The Persians regarded them as very sacred and kept them in their palaces and in huge game reserves.

Nevertheless, they were also tamed and trained to hunt and to fight in war. Rameses II of Egypt had a favorite war lion named Anta-m-nekht, which went into battle walking beside the horses of the Pharaoh's chariot, and Assyrian monarchs fought surrounded by half a dozen lions on long chains. These Assyrian lions were cropped in a remarkable manner to look more fantastic, a practice that was later transferred to certain dogs, and which persists today in the traditional ornamentation of their descendents, the poodles.

In the year 186 B.C., Marcus Fulvius Nobilior took a number of lions from Northern Greece and exhibited them in the amphitheater at Rome. They were an immediate popular success, and hundreds were subsequently acquired from the palaces and sacred menageries of Egypt, Mesopotamia and other African and Asiatic countries. Julius Caesar gave 400 lions and the first giraffe ever seen in Europe to the circus, as it was then called. Pompey went one better and gave 600, together with the first rhinoceros.

When, however, the Romans began throwing Christians to the lions, this practically divine beast acquired a new reputation in which horror and fascination were strangely combined, and, like the circus, this has persisted until today.

THE END

MEDDLING WOMAN

(Continued from Page 29)

Miss Peters made herself very convincing. "I'll grant you that," she said. "There are also a lot of women, single and fancy-free and looking for hus-

"Pigs, darling. The mamma pigs were about to have little pigs, so I stayed and saw them through the crisis."

"Then you sold them a Continental tractor?"

"Well . . . no. They already had a Power Mule. It was broke down, but I overhauled it for them. Runs like new

their hands on their laps, their faces turned toward the unproductive fields beyond the barn.

"Good morning," said Gary. "My name is Holloway. I represent Continental tractors. Looks like you could use a tractor around here."

"We sure could," agreed Mr. Haw-

"Grandp
un
"Next to talking
couldn't pry hi
Then we got th
about that won
what?' snorted G

"It wasn't easy, I
plenty wary wh
Grandpa,' I told
Yes, that seat
cushioning mate
slight extra cost

THE SATURDAY EVENING POST

THE CURTIS PUBLISHING COMPANY

CYRUS H. K. CURTIS, President, 1883-1933

BEN HIBBS, Editor
ROBERT FUOSS, Managing Editor
MARTIN SOMMERS, Foreign Editor
KENNETH STUART, Art Editor
BEVERLY SMITH, Washington Editor

ASSOCIATE EDITORS: E. N. BRANDT • RICHARD THRUELSEN • STUART ROSE • PETE MARTIN • DEMAREE BESS
JACK ALEXANDER • FREDERIC NELSON • ARTHUR W. BAUM • HARLEY P. COOK • ROBERT MURPHY
MARIONE R. NICKLES • WESLEY PRICE • JOHN BAILEY • PEGGY DOWST REDMAN • ERNEST O. HAUSER
H. RALPH KNIGHT • STEVEN M. SPENCER • HUGH MORROW • HARRY T. PAXTON • ASHLEY HALSEY, JR.
HAROLD H. MARTIN • ROBERT L. JOHNSON, JR. • JAMES P. O'DONNELL

DAY EDGAR, Assistant to the Editor • WILLIAM J. STEVENS, JR., Assistant Managing Editor
FRANK KILKER, Associate Art Editor • DOUGLAS BORGSTEDT, Photography Editor

EDITORIAL ASSISTANTS: EDWARD H. SAILE • WILLIAM J. BAILEY • RICHARD L. LEHMAN • GWEN LYSAUGHT
PATRICIA WALSH • MERRILL POLLACK

IN THIS ISSUE

August 18, 1951 *Vol. 224, No. 7*

4 SHORT STORIES

THE DOCTOR'S DOWNFALL . . . . Steve McNeil 22
THE PIT IN THE JUNGLE . . . . Dorothy Cottrell 24
OFFICERS' GIRL . . . . William L. Worden 28
CONFIDENCE MAN . . . . R. Ross Annett 31

7 ARTICLES

SOFTEST TOUCH IN CRIME . . . . Robert M. Yoder 20
THE PATIENT'S HEART HAS STOPPED! . . . . Greer Williams 25
THEY WANT US TO GO TO WAR RIGHT NOW . . . . . Demaree Bess 26
THAT GUY DUFF! . . . . Joe Alex Morris 30
HE SNEERED HIS WAY TO STARDOM . . . . Pete Martin 32
THE MYSTERY OF THE LAWYER'S HOUSE . . . . Richard Thruelsen 34
THE HUMAN MINORITY . . . . Ivan T. Sanderson 40

2 SERIALS

THE OUTCAST OF CROOKED RIVER (First of six parts). Frank Bonham 17
THE SMUGGLED ATOM BOMB (Third of five parts) . . . . Philip Wylie 36

OTHER FEATURES

LETTERS 4
EDITORIALS 10
POST SCRIPTS 38
VERSE . . . 46, 55, 64, 72, 81, 107, 112
KEEPING POSTED 120

THIS WEEK'S COVER

Sometimes Nature rains on a picnic; sometimes she is just neutral; and sometimes, as in this mood caught by John Falter's brush, she glories in the occasion herself, painting a magic sunset, smoothing the waterways into mirrors, tempering the temperature, even arranging for watermelons to be at their most luscious ripeness. These picnickers are nice people who deserve all this, for they are picking up their wastepaper. By and by they will be full of food and beauty and sleepiness, and go home, to the disgust of the boy and girl alone out there with their dreams. Those two want to see the stars gleam out, and the moon rise and cross the sky and disappear, and then watch the new day dawn—and maybe stay on to see the sun set again.

The Saturday Evening Post, copyrighted 1951 by The Curtis Publishing Company in U. S. and Great Britain. All rights reserved. Title registered in U. S. Patent Office and foreign countries.

Published weekly by The Curtis Publishing Company, Independence Square, Philadelphia, Pa. Entered as Second Class Matter, November 18, 1879, at the Post Office at Philadelphia under the Act of March 3, 1879. Entered as Second Class Matter at the Post Office Department, Ottawa, Canada, by Curtis Distributing Company, Ltd., Toronto, Ont., Canada.

The names of characters used in all Post fiction and semifiction articles are fictitious. Any resemblance to a living person is a coincidence.

Subscription prices: U. S. and Possessions, Canada, Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Mexico, Nicaragua, Panama, Philippine Islands, Republic of Honduras, Salvador, Spain and South America except the Guianas, 1 Yr., $6; 2 Yrs., $10; 3 Yrs., $14; 4 Yrs., $18. Other countries, 1 year $11. Remit by Money Order or Draft on a bank in the U. S., payable in U. S. Funds. All prices subject to change without notice. All subscriptions must be paid for in advance.

Unconditional Guaranty. We agree, upon request direct from subscribers to the Philadelphia office, to refund the full amount paid for any copies of Curtis publications not previously mailed.

How to read expiration dates from your address label on the cover: The first number shows the expiration issue; the second the year. Post Number 1 is the first issue in July (the number of this issue appears on this page). A few examples: 24-51 is December 15, 1951; 48-52 is May 31, 1952. You always count from the previous July first.

The Curtis Publishing Company, Walter D. Fuller, Chairman of the Board; Robert E. MacNeal, President; Arthur W. Kohler, Vice-President and Advertising Director; Mary Curtis Zimbalist, Vice-President; Cary W. Bok, Vice-President; [illegible] W. [illegible], Vice-President and Director of Manufacturing; Benjamin Allen, Vice-President and Director of Circulation; Donald M. Hobart, Vice-President and Director of Research; Brandon Barringer, Treasurer; Robert Gibbon, Secretary; Marion Bailey, Manager of The Saturday Evening Post. The Company also publishes Ladies' Home Journal, Country Gentleman, Jack and Jill, and Holiday.

CHANGE OF ADDRESS: Send your new address at least 30 days before the date of the issue with which it is to take effect. Address
THE SATURDAY EVENING POST
INDEPENDENCE SQUARE, PHILA. 5, PA.
Send old address with the new, enclosing if possible your address label. The Post Office will not forward copies unless you provide extra postage. Duplicate copies cannot be sent.

Home-handling hint!

Moving furniture's easier if you equip legs with easy-rolling, silent Bassick "Diamond-Arrow" Casters. Housework's simpler . . . no push and pull. Floors keep better . . . no scratches. You sleep better on hot nights . . . no matter where the breeze is, you can roll your bed to catch it. *Exclusive* two-level, ball-bearing construction makes these casters smoothest-swiveling. Ask your hardware dealer for Bassick "Diamond-Arrow" Casters and Rubber Cushion Glides.

"Floating-Hub" Casters used by Western, America's oldest airline, on baggage carts. "Less bounce to the ounce."

Materials-handling hint!

Speed production, cut costs on Bassick Casters and Wheels. A type for every need. "Floating-Hub" Casters, with built-in shock absorbers, "Grooved-Wheel" Casters on angle iron track, provide easy, low-cost production line handling. "Position Locks" for portable equipment, etc. Sold by Bassick industrial distributors.

THE BASSICK COMPANY, Bridgeport 2, Conn. Division of Stewart-Warner Corp. *In Canada:* Bassick Division, Stewart-Warner-Alemite Corp., Ltd., Belleville, Ont.

BASSICK

MAKING MORE KINDS OF CASTERS
. . . MAKING CASTERS DO MORE

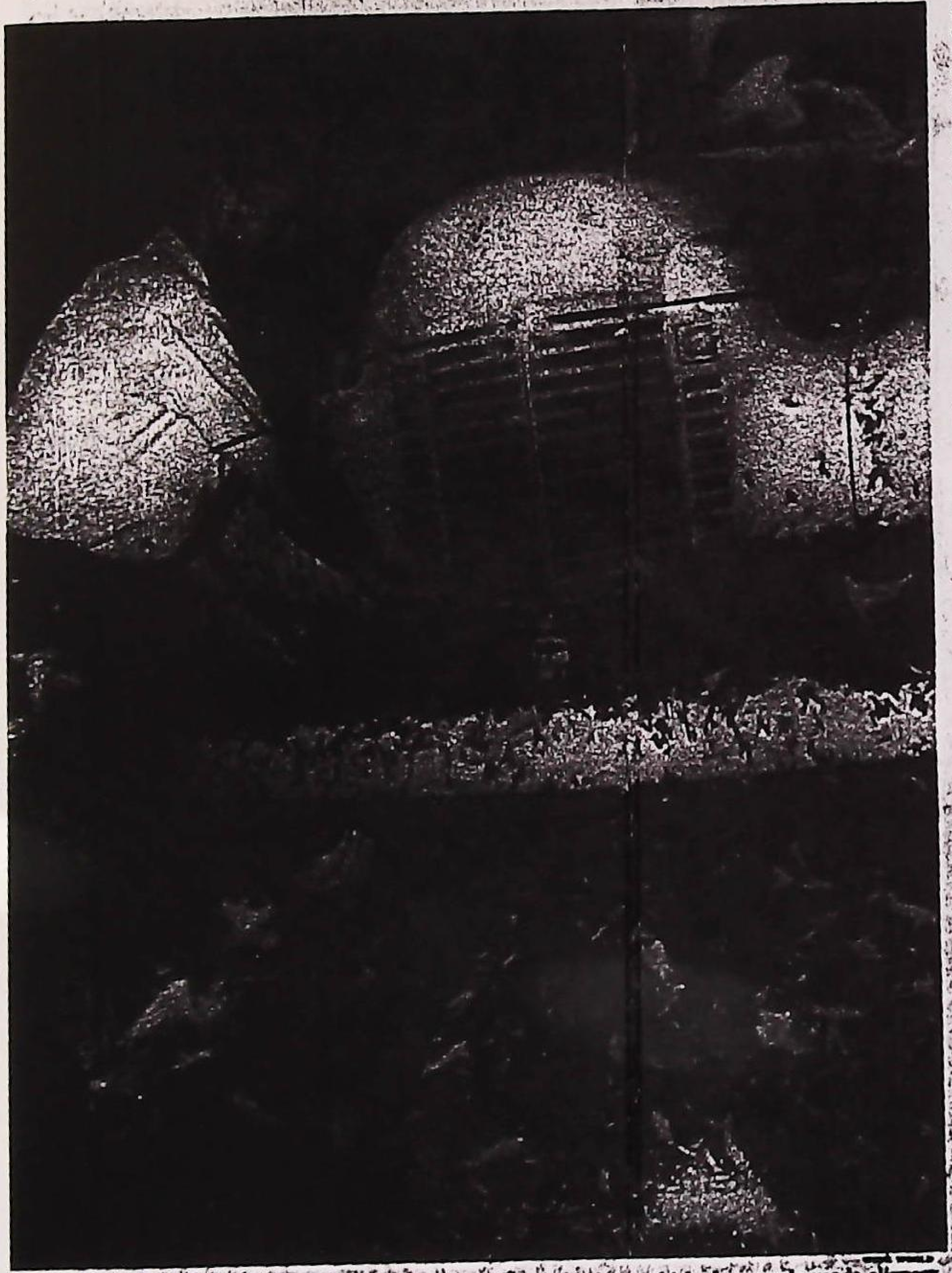
18 Aug 1951 Sat. Eve Post

MAGAZINE: THE SATURDAY EVENING POST
DATE: 18 AUGUST 1951
VOLUME 224, NUMBER 7
PAGE: 40, 80-82,
ARTICLE: THE HUMAN MINORITY
AUTHOR: IVAN T. SANDERSON
THIS IS PAGE: 40

The Human Minority

By IVAN T. SANDERSON

You may shudder, but it's true: A driver-ant army consists of ten trillion insects; the giant snails of Sipora eat forests for lunch; there are more rats than people. In fact, if the animals tried, they could devour us tomorrow.



When a plague of May flies hit Wisconsin, the swarms were so thick they made roads slippery and obscured windshields. Lawrence Rutz had to stop at La Crosse and clear them off his truck.

PRAIRIE dogs, which are a kind of ground squirrel, once developed a city covering 25,000 square miles of territory and containing over 400,000,000 individuals. Field mice to the number of over 7,000,000 per square mile were once recorded from grasslands in the Southwest. Traffic throughout a wide area in New York's Westchester County was once disrupted by fragile soft-bodied little insects less than a quarter of an inch long, known as aphids. Trains in Italy skidded to a stop because the rails were blanketed by beetles.

Why should one species of ground squirrel, mouse, aphid or beetle cause these troubles while two dozen other kinds of ground squirrels, 200 other species of mice, 4000 aphids and all but a handful of the quarter of a million other species of beetles remain virtually unseen and unknown except to specialists? Facts about the mere numbers of living things not only provide us with a constant source of wonderment but they also happen to be of the most vital importance to our very existence.

The study of the numbers of living things as a separate factor in the complexity of nature may at first appear to be a somewhat artificial one, but it was only a quarter of a century ago that Julian Huxley singled out the equally obvious question of the size of things, and, as a result, gave us an almost completely new concept of life. Nature is made up of a complexity of apparently inexplicable mysteries, but none is more baffling than this question of numbers, while few problems have received less serious attention.

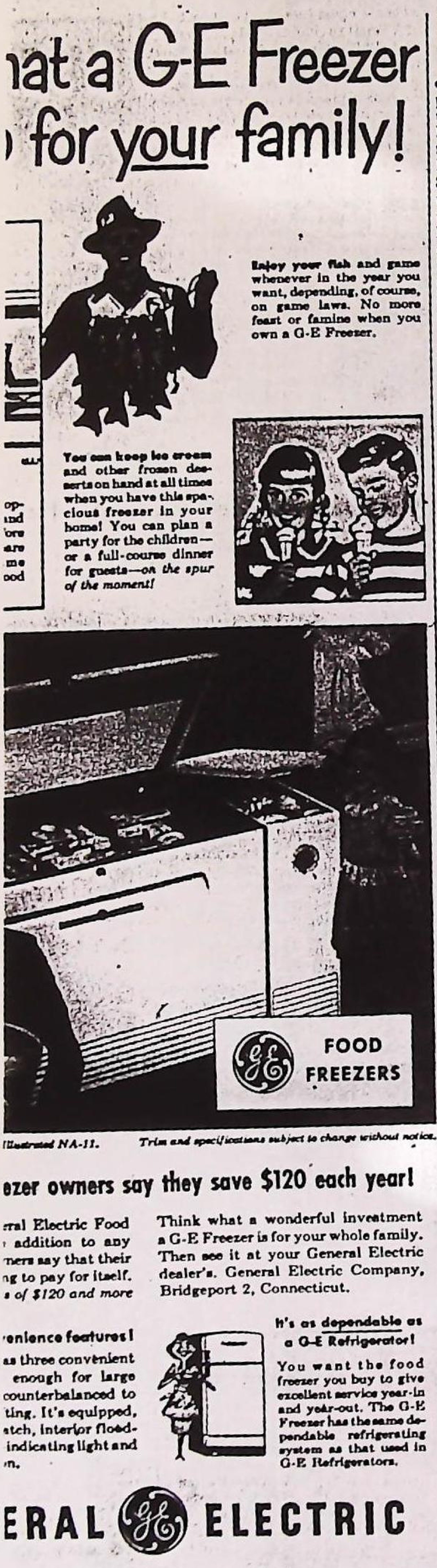
Twenty years ago, I was wandering about the East Indies collecting animals, and paid a visit to the little-known island of Sipora, which is one of the (Mentawai) Islands off the west coast of Sumatra. It was inhabited by Malay fishermen and agriculturists, and as I did not then speak Malay and nobody there spoke any language that I knew, I had to resort to signs, drawings and pointings to make myself and my needs understood. They were nice people and greatly amused at my desire for all manner of small creatures, which I later found out they thought I was carefully preserving in alcohol to sell at home as table delicacies. Perhaps this is why they were so insistent that I go with them one day to visit a place which, by their pointings, I was made to understand had something to do with snails.

We walked all morning along the beach and then cut into a wide belt of mixed farmland backed by virgin forest. I had two earnest young men and a girl as guides, but we were accompanied by a cohort of children of all ages. The latter kept up a continuous babble, but as we crossed the rich green acres of bananas, yams and other tropical crops, I became aware of various odd noises ahead that even their uproar could not drown out. At first I thought I was being led to a place where a gang was clearing the forest for new planting, because there was a continuous murmuring and intermittent crashes as if underbrush were being cut down. But then we suddenly burst out of the tangled growth at the edge of the forest, and the most remarkable sight I had ever seen up till that time met my eyes.

As far as I could see, the whole forest was literally dripping with enormous six-inch snails whose gobbling and chumping produced a continuous low roar, while every now and then whole branches would suddenly collapse under their combined weight. In some places the ground below was over a foot deep in a solid layer of smashed or crawling snails, and here and there giant forest trees stood out like naked skeletons stripped of every iota of their greenery by the multitude.

I stayed there for hours watching this natural phenomenon with awe and not a little fright, for there was something inexorable about this continually munching host.

I did not then know that I was witnessing one of the early steps in a terrible war of expansion by this giant snail which is known as *Achatina fulica*. It has since become one of the greatest menaces throughout the Pacific and has even turned up in California, and the Navy has now been actively engaged for four years in checking its spread. It originated in East Africa, and set out upon its road of conquest from the nearby island (Continued on Page 80)



nat a G-E Freezer
) for your family!

Enjoy your fish and game whenever in the year you want, depending, of course, on game laws. No more feast or famine when you own a G-E Freezer.

You can keep ice cream and other frozen desserts on hand at all times when you have this spacious freezer in your home! You can plan a party for the children—or a full-course dinner for guests—*on the spur of the moment!*

FOOD FREEZERS

Illustrated NA-11. *Trim and specifications subject to change without notice.*

ezer owners say they save $120 each year!

:ral Electric Food
ı addition to any
ners say that their
ng to pay for itself.
s of $120 and more

Think what a wonderful investment a G-E Freezer is for your whole family. Then see it at your General Electric dealer's. General Electric Company, Bridgeport 2, Connecticut.

'enience features!

as three convenient
enough for large
counterbalanced to
ting. It's equipped,
atch, interior flood-
indicating light and
n.

It's as dependable as a G-E Refrigerator!

You want the food freezer you buy to give excellent service year-in and year-out. The G-E Freezer has the same dependable refrigerating system as that used in G-E Refrigerators.

ERAL ELECTRIC

THE HUMAN MINORITY

(Continued from Page 40)

of Madagascar in 1819, being transported thence to Mauritius, from there to India in 1847, and to Ceylon in 1900. By 1927 it had spread to Malaya, and from there advanced through the East Indies, and was carried to Guam and Saipan by the Japanese as food for their troops during the last war. Why this once-obscure African species should have become a terrible plague while none of the other tens of thousands of known kinds of snails have done so is a question we cannot yet answer, but it lies at the very heart of the mystery of animal numbers and populations.

However, we are not here primarily concerned with either plagues or swarms, but rather with the normal day-to-day and year-to-year strength of animal populations. Admittedly, it is often difficult to decide what constitutes a plague and what is the norm, because many, if not most, animal populations vary either from season to season or from year to year, and often on a cyclical basis, building up their numbers gradually over several years, and then either emigrating in mass or suddenly dying away *in situ*, due to disease.

There is no doubt in the average American gardener's mind that the Japanese beetle constitutes a plague, and in Italy they became so numerous a few years ago that they had to be swept off railroad tracks because their countless crushed bodies caused the locomotive wheels to spin, bringing trains to a dead stop. The Russians have also made it quite plain that they consider the Potato beetle in the same light, but there is no surety, from a purely scientific point of view, that these opinions are correct, though these insects by their sheer numbers undoubtedly constitute very real menaces to our crops. Their numbers may be normal in the new environment. Seasonal eruptions, such as those of grasshoppers in our West and of locusts throughout the tropics, though undeniably natural, may, however, be designated as swarms without any constraint. Yet the whole matter becomes greatly complicated in certain circumstances.

At the end of September, 1948, many aspects of normal human life were totally disrupted over a large area in New York's Westchester County by an inundation of small insects known as aphids, or green flies. They are harmless, soft-bodied little insects that spend the spring and summer months producing generation after generation of wingless females on trees, shrubs and herbs, but which at the end of the season produce both winged males and females, all of which then take off in a gay nuptial flight together. So great was this particular flight that policemen trying to direct traffic only caused utter disorganization by their endless swatting at the insects, and had to quit their posts.

Even the farmer, accustomed as he is to endless insect scourges, has no real idea of the sheer numbers and mass of animal life that inhabits this small planet along with us. Take first the numbers of kinds of various animals known. There are some 8000 recorded species of mammals—estimates vary from as low as 3500 to as high as 14,000, depending upon the criteria used to define a species—and more than twice as many kinds of birds. Then there are more species of fish than of all other backboned animals put together—some 40,000 known kinds, and probably thousands of others still to be discovered. But the animals without backbones vastly exceed all of these in numbers of kinds. There are 80,000 known kinds of molluscs—that is, snails and shellfish—and no less than half a million species of insects. Yet entomologists assert that we have as yet probably discovered and identified only about 10 per cent of all the insects that exist. More than half the known insects are beetles, and one family of beetles alone—that of the weevils—already contains more species than there are fish, and will, it is believed, eventually exceed in number all backboned animals put together, when all its existing members have been collected.

Such figures may be amazing, mystifying or depressing, according to how you view the subject, but they are as nothing compared to the numbers of individual insects of all kinds that normally occur. The Department of Agriculture has stated that there are, on an average, 25,000,000 insects in the air over every square mile of the earth's surface. A British soil authority has estimated that there are some 2,240,000,000 insects u[illegible] mile of soil, while a third authority [illegible] calculated by actual sample counts that there are some 34,000,000 insects on every acre of arable land. Moreover, these figures, astronomical as they may be, refer only to the normal population of assorted insects that are to be found on the average land in temperate zones. The figures for the tropics are many times greater. Then, there are the so-called social insects—the ants, bees, wasps and termites.

In the tropics there are three kinds of ants that have greatly impressed men since they were first observed. These are the driver ants, the army ants and the leaf-cutting ants. Some fabulous fictional tales have been written about driver ants, but no story has ever truly depicted the enormity of these creatures as they really are. I remember one time when three of us were living in a native hut on a cleared knoll in West Africa during the rainy season. It was a very quiet night between rainstorms, and we slowly became aware of a murmuring noise like the passing of a locomotive over a distant prairie. At first we thought that another downpour was coming our way, the raindrops roaring over the forest canopy, but then one of our native helpers came running into the lamplight with his eyes literally bulging and sweat pouring from his forehead.

"They come!" he yelled. "The *bashoukoi* come!" And we soon learned what that meant—the driver ants.

Running out of the house with lamps and flashlights, we found a blanket of rustling black movement advancing upon us out of the forest and covering every speck of ground and all the herbs, bushes and trees as far as our lights would penetrate. Borne along on this living flood of ants were scores of dead and dying animals ranging in size from tiny insects to large toads, and here and there larger creatures screamed and died and were literally dissolved before our eyes by this terrible host. We fought them with water, fire and kerosene for two hours, and eventually the host split in two before our stubborn defense and passed us by, but they then advanced upon the native village and caused a complete evacuation and swept it clean of anything and everything edible. The host took nine hours to pass.

Nobody could calculate the numbers of insects in such a mass movement of driver ants even if one had the means of surveying its spatial limits. Investigators have, however, tried to estimate the number of insects that form one of the columns of the army ants. These creatures travel along purposefully and at a steady, hurried pace through the tropical forests in close-packed columns measuring about eight inches to a foot in width and apparently extending endlessly. Many people have set out to trace these streams either to their source or to their front, but it seems that nobody has ever succeeded. Sometimes these armies pass continuously for days on end. By gathering up a given length of the columns and counting the number of insects contained therein, and then by recording the speed of advance and making some simple calculations with regard to the length of time they kept passing, astronomical figures have been claimed—

* * * * * * * * * *

HOSPITAL NURSERY

By Herbert Merrill

Here in this odd, antiseptic place
The babies lie with kicking arms and legs,
Belligerent and vocal, red of face,
In baskets like a batch of new-hatched eggs.

And up and down the hall, we fathers stride,
Cut off from heaven by a windowpane,
Half angry that we cannot get inside,
Half reconciled to wait, and wholly vain.

Impatient for our fledgling to be shown,
We peck upon the glass, point to the clock,
And when at last the nurse holds up our own,
We crow as loud as any barnyard cock.

* * * * * * * * * *

that is to say, 10,000,000,000,000 or more for one army.

For such figures we cannot personally vouch, but we did spend several years investigating the cities of the leaf-cutting ants, which are a great pest in the American tropics. We found that the number of their nests sometimes rose to as many as 200 per acre on certain kinds of land, and some of the older cities in virgin forest were forty feet across and twenty feet deep. From these cities as many as two dozen cleared highways radiated outward, and along these the busy insects ran back and forth day and night in continuous streams to distances as far away as a mile in order to cut pieces of green leaf from the tops of high trees. These cuttings are carried back to the cities and laid down in hotbeds in which these uncanny creatures plant a certain kind of fungus. They feed exclusively upon the honeylike secretion of this fungus. We did some calculations of the number of ants passing along the roadways and of the almost solid masses to be found engaged upon various works in the sundry chambers of the cities below. The figures ran into the millions in large cities.

These numbers may seem to be quite unrelated to our everyday lives, but anybody can appreciate the fact that all these hosts of little creatures must eat to live and must therefore, by their eating, have a profound effect upon the whole economy of nature. In view of this, perhaps a few facts about these effects—and specifically those brought about by insects—may be pertinent. The Department of Agriculture has calculated that insects destroy annually no less than one tenth of all the food we produce, and cause the American farmer alone at least a $1,500,000,000 loss per year. On the other hand, consider shellac, which is a substance secreted by a small Oriental insect. It takes 150,000 of the insects, working for six months, to produce a pound of shellac, and no less than 60,000,000 pounds are marketed per annum.

The animals living in the seas and oceans exceed in total numbers those inhabiting the land by so many times that our mathematics, and even that of the astronomers, simply has no symbols to express the facts. Nearly three quarters of the surface of our earth is covered by the oceans, and these are on an average two and a half miles deep, thus representing a volume of space tens of thousands of times greater than the thin, inhabitable layer on the surface of the land. It now appears that almost all of this immense volume of water is not only inhabited by but positively swarming with animal life even down to the greatest depths.

During World War II very extensive surveys were made with new electronic and water-borne wave-sounding devices, and the operators of these highly sensitive instruments were amazed to find that there were layers deep down in the oceans that reflected the waves sent out by their machines almost as if they were solid, although more miles of water were known to exist below them. These layers caused an almost solid mass of visual flashes or a continuous roar of sound in the receivers, indicating that they contained dense masses of something. Further research has now shown that these deep strata in the oceans consist of an almost solid mass of living things—probably shrimp-like creatures, squids and possibly fish and other animals—that may one day provide humanity with an almost inexhaustible supply of much-needed food.

It is manifest from the numbers of oysters, shrimps and certain kinds of fish that are eaten by us annually that the numbers of these animals existing in the sea must be very great indeed, and also must be constantly replenished. Their actual numbers vastly exceed anything we can imagine, however, and even if expressed by volume or measurement—as by saying that the volume of codfish on the Grand Banks is equal to four Empire State Buildings or that the Gulf Coast shrimp run off Florida is 180 miles long and ten miles wide—hardly mean anything. On the rare occasions when one can actually see such a host of marine life the phenomenon makes a lasting impression on even the most hard-bitten fisherman.

The coastal waters of the tropics, especially among coral reefs, are often exceptionally clear, and where the bottom consists of clean white sand even the smallest objects may be clearly visible at a depth of twenty to thirty feet. We spent many months cruising among the islands, keys and shallows of the second-longest coral reef in the world, which fringes the coasts of the Yucatán Peninsula in the Caribbean. At one point the main reef runs continuously for some forty miles, reaching out to sea in the form of a triangle, at the apex of which is the only deep-water gap leading from the

FEWER HAND OPERA
FASTER DRIVING
NO WASTED LOCK WA
EVERY NUT LOCKED
SHAKEPROOF
DIVISION OF ILLINOIS

!
LETE
LE
need
TON
er
ACLE TAB takes the guess-
ing neat, straight columns
addresses, figures.
ng your hand from the key-
accurately set—or clear—
with a flick of the finger.
of many *exclusive* typing
and on Quiet-riter!
included. Your dealer
convenient payments.
Remington Rand
PERSONAL SIZE

open ocean to the lagoon within. Inside the triangle is continuous white sand and shallow water covering more than 100 square miles and dotted with a few small, palm-capped islands.

Anchoring off the island nearest to the deep-water gap one afternoon, we witnessed a natural phenomenon that perhaps one day may become one of the wonders of the world. About two hours before sundown each day the open sea outside the gap in the reef begins to boil, appearing actually to rise up into a dome, and then suddenly a black cloud billows in through the gap just as if a giant hypodermic were squirting a million gallons of ink into the clear waters of the lagoon. As the cloud enters the shallow water it fans out and gathers momentum, and within a few minutes has covered and obliterated the white bottom as far as the eye can see. But it goes on pouring in until long after sundown. This black cloud is composed entirely of a small kind of fish which comes into the protection of the lagoon every night and leaves again before dawn each morning, and so dense is the mass entering the narrow gap that millions are crushed to death on its coral gates each time they pass.

But even this sight is picayune compared to the incalculable hosts of animals that inhabit the cold polar oceans. Consider for a moment that there are still millions of the larger baleen whales, several of which feed almost exclusively on a tiny shrimplike creature known as krill. A large blue whale's stomach has a capacity of more than a ton, and whales keep eating and digesting all the time, yet, day in and day out, year after year, millions of whales feed on the krill, and countless billions of fish and other lesser creatures do likewise, but the supply never gives out—in fact, there is so much left over that the whole ocean for thousands of miles may sometimes appear brownish-pink in color because of their multitudes.

More obvious to the average person, however, are the animals that share the land surface with us, and notably our farmlands. Everyone has seen films of the great African game herds, and probably not really believed what he saw. We have also all heard about the bison herds, estimated to have contained more than 50,000,000 head, that once roamed our prairies, and of the famous passenger-pigeon flights that once blackened our skies in solid masses ten miles wide and stretched continuously for as much as 500 miles. One of their nesting places in Kentucky covered 400 square miles. Today these are things of the past, but we seldom realize that there are still almost 8,000,000 animals classed as big game in the United States, nine tenths, or some 7,000,000 of them, being deer, and 140,000 black bears. There are still some 230,000 moose in Canada and the north, and about 100,000 peccaries, or wild pigs, inside our Southern border. But these paltry figures are of no significance compared to the numbers of rodents that share our country with us.

The prairie dog is a little plump, short-tailed ground squirrel that inhabits our Western plains. It digs industriously, throwing out the loose earth all around so that a low dome is formed with its hole in the middle. Prairie dogs eat grass, and quite a small area is sufficient to maintain a family. Although still numerous enough to be a pest in many areas, these animals once occurred in unimaginable numbers. One continuous colony, or "town," as their communities are called, has been described that stretched for 250 miles in one direction and 100 in the other, thus covering some 25,000 square miles; it contained over 400,000,000 prairie dogs.

Such numbers, although at first sight fabulous, are surpassed by those of the hosts of several other species of rodents that are found in our country. Field mice, for instance, lay out a series of little tunnels under the grass, covering an area about the size of a tennis court, but these territories overlap, and thus some 200 mice can live on each acre of land. If such suitable conditions occur over 25,000 square miles, and they very often do, the number of field mice therein amounts to 3,200,000,000, or almost eight times the equivalent density of prairie dogs. Now, field mice are subject to a curious periodicity, their numbers building up slowly over the years until swarm conditions occur, such as one instance in the Southwest in the early part of this century, when there were estimated to be as many as 12,000 mice per acre, and this would raise the total in the area mentioned above by sixty times. These vast armies of living things, although all about us, are, however, rarely seen and are therefore seldom taken into consideration when we come to assess our own position in the world. Nevertheless, they have the profoundest effect upon our lives.

For instance, the Fish and Wildlife Service has discovered that field mice may on occasion destroy as much as 50 per cent of corn crops and 75 per cent of alfalfa in the fields. Then the introduced black and brown rat population, which now exceeds that of human beings in the United States, takes over when the grain is stored and consumes an estimated 200,000,000 bushels per annum, worth some $360,000,000. This amount would just about fulfill our ECA food commitments to Europe for the year. Added to these hordes are quite a number of other pilferers, including various insects and the little house mouse. We are basically grain eaters ourselves—rice, wheat, corn, millet and our other staples—and our principal food animals—cattle and sheep—also feed on grasses. Thus the depredations of these pilfering hosts have a direct bearing upon our available food supplies. Control of their numbers is of the utmost importance.

Yet we do not know why one species in its native territory will vastly exceed all other related kinds found there. Nor do we know why one obscure creature, rare in its own country, becomes a terrible pest if introduced into other countries. And saying that one species is more successful or adaptable than others is only begging the question. What makes them more adaptable? Is it pure chance or are there reasons why the canary, among hundreds of finches, and the budgerigar, of all the dozens of parakeets, are so successfully domesticated?

There are undoubtedly underlying reasons for these marked discrepancies in numbers, but apart from one or two obvious assumptions, such as that there are likely to be fewer individuals the larger the animal becomes, we do not, as yet, know what they may be. Serious attention to this seemingly prosaic problem might give us answers to a number of questions which are worrying us today and which, at first sight, may not appear to have anything to do with the mere numbers of animals. In the meantime this mystery of nature must remain a source of wonderment to all of us, as it has been since the dawn of history. THE END

THE PIT IN THE JUNGLE

(Continued from Page 24)

pipe!" The Old Man had rather prominent eyes, heavy pink jowls and a rather pouting expression, but his face could look fine in a hurricane. And as Heavy said "Yes, sir!" and went, the Old Man had said things to the men in a voice that cut like a knife with its anger at cruelty.

"You dirty swine!" the Old Man's low voice had said, as he thought Heavy couldn't hear. "Think yourselves funny, do you? You'd all cheer your damned heads off when he was champion, wouldn't you? When he was getting this way for your amusement? Well, he's still more of a man than the bunch of you rolled in your own damned snickers! What do most of you do with your spare time anyway? Get drunk and pick up a cutie and be a damned trouble to the service, that's what! Well, Heavy didn't. He looked after his mother and five kid brothers. Put the boys through college, set them all [illegible] —to a damned sweet girl—and had a little nipper of his own." The Old Man's voice stopped a minute. "Had a little cottage for them while he was in the service in the war. Well, when he got back, there was just a bare place where the cottage had been. The bombers had been there. No one ever found his wife or the kid. That made him—well, a bit more the way he is! And if anyone on this ship ever notices the way he is again, he'll deal with me, that's what! Understand?"

Heavy hadn't even known the Old Man knew about Maggie or Billy or about how the crowd cheered when you were champ. Nothing was ever said about any of it between him and the Old Man, but Heavy belonged to the Old Man for life. The only near approach to ever saying anything was once when Heavy was carrying the Old Man's fishing rods. The Old Man liked him when he went fishing because Heavy didn't talk unless he was talked to. Well, the Old Man was winding the line one day at the end of some cl fishing. Out of nowhere, he looked the sea and said, "Fishing's a go

"Oh, John, you shouldn't

THE SATURDAY EVENING POST

THE CURTIS PUBLISHING COMPANY

CYRUS H. K. CURTIS, President, 1883-1932

BEN HIBBS, Editor
ROBERT FUOSS, Managing Editor
MARTIN SOMMERS, Foreign Editor
BEVERLY SMITH, Washington Editor
KENNETH STUART, Art Editor

ASSOCIATE EDITORS: E. N. BRANDT • RICHARD THRUELSEN • STUART ROSE • W. THORNTON MARTIN
DEMAREE BESS • JACK ALEXANDER • FREDERIC NELSON • ARTHUR W. BAUM • HARLEY P. COOK
ROBERT MURPHY • EDGAR SNOW • MARIONE DERRICKSON • WESLEY PRICE • JOHN BAILEY
ROBERT M. YODER • PEGGY DOWST • ERNEST O. HAUSER • H. RALPH KNIGHT • STEVEN M. SPENCER
HUGH MORROW • HARRY T. PAXTON

DAY EDGAR, Assistant to the Editor • WILLIAM J. STEVENS, JR., Assistant Managing Editor
FRANK KILKER, Associate Art Editor • DOUGLAS BORGSTEDT, Photography Editor

EDITORIAL ASSISTANTS: EDWARD H. SAILE • WILLIAM J. BAILEY • MARTHA O. STENGEL
KATHARINE BRITTON • RICHARD L. LEHMAN

IN THIS ISSUE

March 6, 1948 *Vol. 220, No. 36*

4 SHORT STORIES
NOW YOU CAN MARRY ME. . . . . Mollie Panter-Downes 22
DANGEROUS CAPTIVE. . . . . Robert M. Yoder 26
THE HIGH COST OF LOVE . . . . Roderick Lull 31
ENTRAPMENT . . . . Thomas Walsh 34

NOVELETTE
HORNBLOWER'S DUEL. . . . . C. S. Forester 18

9 ARTICLES
A FAINT BLUEPRINT FOR PEACE. . . . . Martin Sommers 15
HOW *NOT* TO TELL A STORY. . . . . Bennett Cerf 17
THE BANKER WHO LOVES TO SAY YES . . . . Neil M. Clark 20
THEY'VE BUILT 3000 SHIPS BY HAND (A Post Picture Story)
Photography by Arthur Griffin 21
MYSTERIES OF THE OWL. . . . . Ivan T. Sanderson 27
HERE'S HOW THE SOCIALISTS RUN A BRITISH TOWN . Edgar Snow 28
MY HITS—AND MY ERRORS (Fourth of eight articles)
Babe Ruth, with Bob Considine 30
NO NEW HOUSE FOR YOU . . Joseph M. Guilfoyle and John S. Cooper 32
WILD LOBBYISTS I HAVE KNOWN . . . . Frederick C. Othman 41

2 SERIALS
KEY JINX (Second of five parts). . . . . Philip Wylie 36
THE KING AND THE CORPSE (Conclusion) . . . . Max Murray 43

OTHER FEATURES
LETTERS. 4
KEEPING POSTED 10
REPORT TO THE EDITORS . . 12
POST SCRIPTS. 38
VERSE . 53, 56, 78, 103, 112, 131, 138
EDITORIALS 148

THIS WEEK'S COVER

Norman Rockwell's painting of gossip gave the artist a good deal of concern. He used himself as the victim of the story—the man at the end of the chain, who doesn't find anything funny about it—but he needed a great many other models. What you see, consequently, is almost the entire adult population of Arlington, Vermont. When he had painted his neighbors, Rockwell grew worried because he felt he had caricatured them. He wanted us to know that they are really very good-looking and that the cover does them all an injustice. This will serve, we hope, as a note to Rockwell's friends. You are much more handsome than in this picture, and indeed the only Arlingtonian face the artist has reproduced faithfully is Rockwell.

The Saturday Evening Post, copyrighted 1948 by The Curtis Publishing Company in U. S. and Great Britain. All rights reserved. Title registered in U. S. Patent Office and foreign countries.

Published weekly by The Curtis Publishing Company, Independence Square, Philadelphia, Pa. Entered as Second Class Matter, November 18, 1879, at the Post Office at Philadelphia under the Act of March 3, 1879. Entered as Second Class Matter at the Post Office Department, Ottawa, Canada, by Curtis Distributing Company, Ltd., Toronto, Ont., Canada.

Subscription prices: U. S. and Possessions, Canada, Newfoundland and Labrador, Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Mexico, Nicaragua, Panama, Philippine Islands, Republic of Honduras, Salvador, Spain and South America except the Guianas, 1 Yr. $6; 2 Yrs. $10; 3 Yrs. $14; 4 Yrs. $18. Other Countries, 1 year, $11. Remit by Money Order or Draft on a bank in the U. S., payable in U. S. Funds. All prices subject to change without notice. All subscriptions must be paid for in advance.

Unconditional Guaranty. We agree, upon request direct from subscribers to the Philadelphia office, to refund the full amount paid for any copies of Curtis publications not previously mailed.

How to read expiration dates. The expiration date of subscription copies is included in the address on the cover, Example: "14-50." The first number shows the issue of expiration; the second the year. The Post is numbered from the first issue in July. Thus, "14-50" indicates an expiration date 14 issues from the first one in July, or Sept. 30, 1950.

The Curtis Publishing Company, Walter D. Fuller, President; Arthur W. Kohler, Vice-President and Advertising Director; Mary Curtis Zimbalist, Vice-President; Cary W. Bok, Vice-President and Treasurer; Lewis W. Trayser, Vice-President and Director of Manufacturing; Benjamin Allen, Vice-President and Director of Circulation; Robert E. MacNeal, Secretary; Morton Bailey, Manager of The Saturday Evening Post. The Company also publishes Ladies' Home Journal, Country Gentleman, Jack and Jill, and Holiday.

Post Change of Address. Send to

THE SATURDAY EVENING POST
INDEPENDENCE SQUARE, PHILA. 5, PA.

at least 30 days before the date of the issue with which it is to take effect. Send old address with the new, enclosing if possible your address label. The Post Office will not forward copies unless you provide extra postage. Duplicate copies cannot be sent.

The names of characters used in all Post fiction and semifiction articles are fictitious. Any resemblance to a living person is a coincidence.

PICTURE of the month

Metro-Goldwyn-Mayer presents
B. F.'s DAUGHTER
Starring
BARBARA STANWYCK
VAN HEFLIN
CHARLES COBURN
RICHARD HART • KEENAN WYNN
A ROBERT Z. LEONARD PRODUCTION

Screen Play by LUTHER DAVIS
Based on the Novel by JOHN P. MARQUAND
Directed by ROBERT Z. LEONARD
Produced by EDWIN H. KNOPF

Did you ever play "casting"? It's kind of like picking winners at the track, only not as expensive. We're pretty good at it. For instance: You read a great best-seller—and then sit around and suggest who you would like to play the principal roles. We did all right with John P. Marquand's fascinating novel. M-G-M did much better than we did. They cast it magnificently.

Whom would you choose for the title role . . . B. F.'s Daughter? First of all she had to be lovely, and high-spirited, and very glamorous, a role that combined emotional fire and ice. We smote our forehead when we learned that M-G-M had cast brilliant Barbara Stanwyck. That was the *perfect* choice indeed. Then there are the two men in her life: Tom Brett, the romantic but two-fisted intellectual who sweeps the heiress off her feet . . . and, Bob Tasmin, the elegant, and extremely handsome young gentleman with whom B. F.'s daughter is in and out of love at various times. We scored two bull's eyes there.

Van Heflin is, of course, exactly right for Tom, easy-going, terribly attractive, yet knowing exactly what he expects from the enchanting woman he marries. And Bob is played perfectly by talented Richard Hart. As "B. F." himself, steely, yet sentimental, we chose one of Hollywood's finest performers, Charles Coburn. And we're happy to say so did M-G-M. Finally, as the gay, fast-talking radio commentator, Martin Ainsley, M-G-M enlisted the services of Keenan Wynn.

Cast and story, right down the line, "B. F.'s Daughter" spells Entertainment; sophisticated, breath-takingly tense . . . a great love story, penned by John P. Marquand, Pulitzer-prize winner, produced with the sure-fire touch of Metro-Goldwyn-Mayer.

Luther Davis (who wrote "The Hucksters" screenplay) has provided a corking script . . . One of Hollywood's finest directors, Robert Z. Leonard, has brought it glowingly to life. For over-all showmanship, the spotlight falls on Producer Edwin H. Knopf.

If you want to know what B. F. stands for, we suggest "Best Film." And we're sure you'll agree. (Advertisement)

Mysteries of the Owl

By IVAN T. SANDERSON

An extraordinary bird is the owl, enigmatic villain of much wild fantasy and folklore. He can, among other things, be trained to come, fetch, or roll over like a dog.

A FRIEND and I were once creeping through a tropical forest at midnight, armed with light shotguns, our feet clad in explorer-type boots because unpleasant snakes were said to abound in that place, and with head torches such as miners use strapped to our brows. The whole procedure would doubtless have appeared to an onlooker as being somewhat conspiratorial, but we were merely looking for small nocturnal animals, and were under the entirely false impression that we were making no noise about it. It was utterly silent in that forest, and not just dark, but completely pitch black, so that we might as well have been sunk a hundred feet deep in a tank of India ink. Then, suddenly and without any warning at all, something yelled "Whoo!" at us, with the most frightful emphasis.

The result was pathetic. We both dropped our weapons, our lights went out, and we rose in the air as if gravity had come unstuck, and found ourselves clinging together like two terrified mice. We were in a country inhabited by inoffensive and delightfully uncivilized natives who told highly convincing tales of objectionable "things" that dwelt in these forests, which, they said, sprang out at unwary travelers in the dead of night. On occasions such as I describe, the finer points of such stories become blurred, and so we clung together in frank desperation. Looking back on it, my friend and I agree that it was one of the lowest spots of our supposedly intrepid existence together, but, at the time, the awful question was: Who had said "Whoo"?

When we stopped clinging we recovered the guns, relit the torches and looked around. There was nothing to be seen, apart from lots of leaves, twigs, vines, branches and tree boles. We peered suspiciously this way and that, sweeping the beams of our torches all around, but with considerable misgivings, for, of course, "things" aren't supposed to have material bodies. Then, added horror, a pair of perfectly enormous eyes suddenly sprang into being almost on top of us, and this brought my friend's fowling piece to the ready in short order. But I had concentrated my light on the eyes and, just in time, I knocked my friend's gun upward, crying out to him not to fire, for I had suddenly seen what it was that had bawled at us.

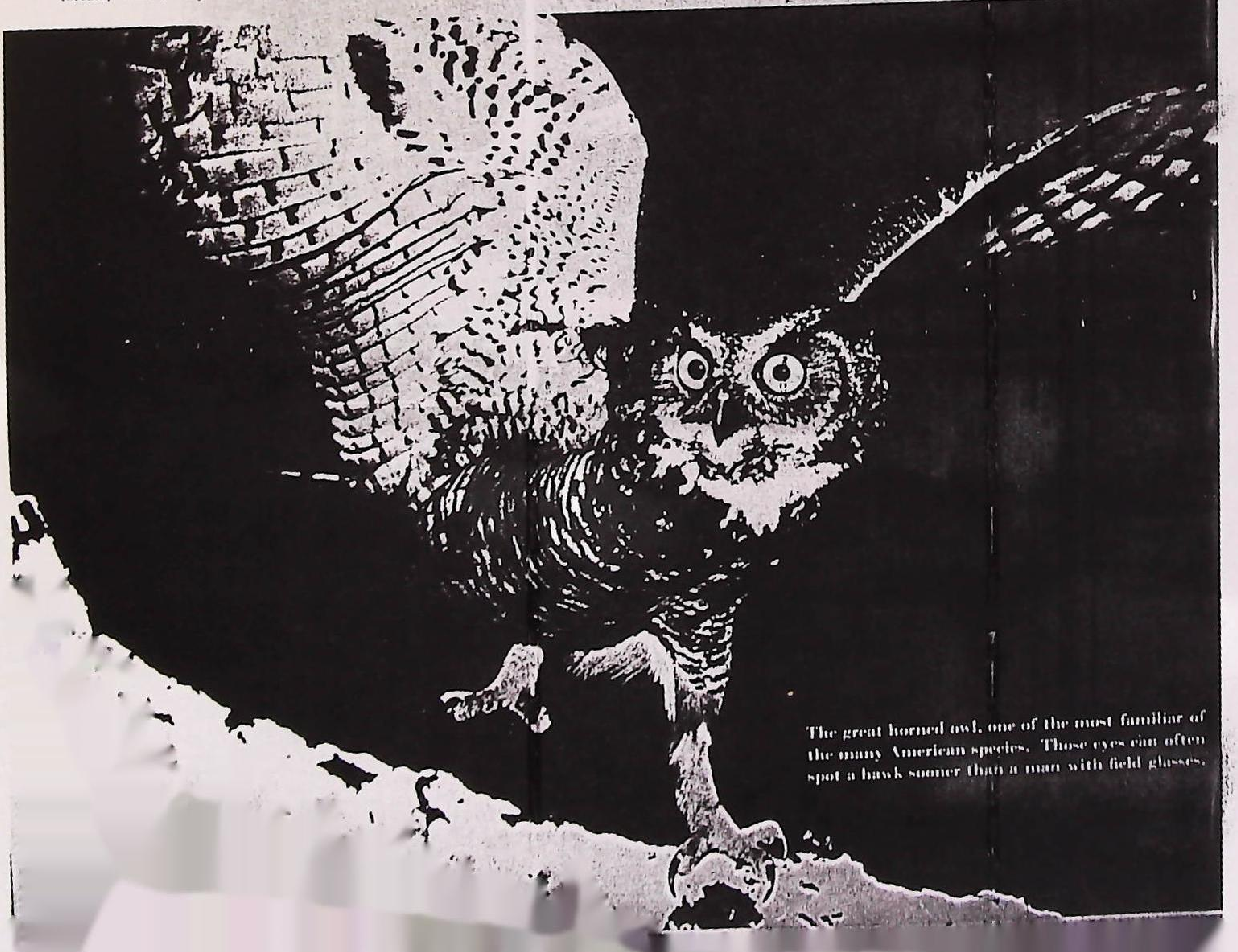
On a big arching branch sat a magnificent bird with two satanic-looking horns arising from its head, and tremendous shining eyes that regarded us coldly, but not altogether unsympathetically. It was a huge owl, and what species I did not then discover, for, although some museum would no doubt have welcomed its dehydrated pelt, I have never been able and could not then persuade myself to kill one of that mysterious and, in many respects, regal tribe of birds.

There is probably no more depressing sight than a stuffed owl. Contrarily, there can hardly be a more magnificent spectacle than one of the larger species free in its own domain. Live owls are, therefore, creations of singular perfection, and they seem to exude an air of aristocratic complacency, yet their demeanor may be, as in the case of some of the larger varieties, not unlike that of tigers, with their blazing [illegible] cruel mouths and taloned feet. On the other hand, there are tiny owls that are so deliciously rounded, so innocently wide-eyed and so engagingly pert that one automatically conceives an overwhelming desire to fondle them.

I remember once trying to go to sleep in a hammock under the stars in

(Continued on Page 115)

LYNWOOD CHASE



The great horned owl, one of the most familiar of the many American species. Those eyes can often spot a hawk sooner than a man with field glasses.

MYSTERIES OF THE OWL

(Continued from Page 27)

Northern Mexico when a very slight noise made me reach for the torch. Flashing this on disclosed, not a foot from my face, the most adorable effort on the part of Nature that I have ever encountered. It was a tiny elf owl, no bigger than a sparrow, perched on the side cord of my hammock, and all puffed up with the cold night air and, apparently, also with much importance. Its eyes were enormous and quite round, and they stared straight at me. The tiny elfin creature blinked at me and then coyly raised a wing and held it over its face to cut out the light. After about two minutes, while we rocked gently together—and occasionally peeked at each other, it went "Tweep-tweep" and just puffed out into the star-filled night without another sound.

Owls are remarkable creatures that have always held a great fascination for men and have played a not inconsiderable part in our history since prehistoric times. Probably because of the strangeness of their ways and their singular appearance, they have been credited with most extraordinary and often alarming potentialities. Their habits of being nocturnal and delighting in desolate places of all kinds were alone sufficient to make them suspect to our silly ancestors; add to this their propensity for ghastly hoots, fearful shrieks and terrifying snakelike hisses, combined with a most unpleasant snapping noise which they make with their bills and which has repeatedly been likened to the tacking of a coffinmaker's hammer, and it will readily be seen why superstitious yokels regarded them with horror. In the earliest times and in almost all parts of the world strange beliefs arose about these birds that in many cases became almost a religion in themselves and gave rise to a mass of hysterical fantasy, myth and folklore.

Not all early traditions and beliefs were, however, to the effect that the owl was evil. The Athenian Greeks took quite the opposite view. They regarded the little owl with the utmost reverence, and when one landed on the masthead of Admiral Themistocles' flagship just before the critical Battle of Salamis, they considered the course of history assured, and it has to be admitted that, from their point of view at least, they were right. They also regarded this bird as the symbol of all wisdom, but in this we may perhaps detect a trace of satirical humor, for there is no greater buffoon in the bird world than the little owl, which has an extremely silly face and indulges in the most ridiculous antics.

The Romans abominated all owls and accused them of sucking the blood of infants, but at the same time and with their very practical lack of logic, they ate them on certain occasions. They believed that one landing on a roof presaged death, and they called them presagers, or the birds that foretell ill fortune. Ornithomancy, or the foretelling of events by observing the actions of and noting the noises made by birds, was a serious business in Rome, and nothing was ever done without sanction from the official augurs who interpreted these things. A poor innocent owl once carelessly landed in the precincts of the Capitol. It was promptly caught and burned, and its ashes were thrown into the Tiber by a much disturbed priesthood, who then had formally to fumigate the entire city. The deaths of Emperors Augustus, Valentinian and Antoninus were said to have been presaged by owls.

Owls, the Lord be praised, are always quite plainly owls, and there is little likelihood of mistaking one. They vary in size from no more than four inches to more than two feet in length. They are not, as previously thought, closely related to the hawks.

There are more than 300 kinds of owls, found almost all over the land surface of the earth from arctic tundras to equatorial jungles and deserts, and on many distant and isolated oceanic islands. Some forty-five species or distinct races have been recorded from the United States, among the best known of which are the great horned, or cat, owl, the barn owl, the long-eared and short-eared owls, the snowy owl of the far north, the barred and spotted owls, the screech and hawk owls, the curious little burrowing owl, the pygmy and elf owls, and the "saw-whet," so called from the noise that it makes, which is like a saw being sharpened with a file.

The most distinctive feature of an owl is its face, which is usually very droll. The eyes are large and point straight forward like our own, and they are surrounded by disks of small recurved feathers, which in the barn, or monkey-faced, owl are white and very striking, and give the bird an entirely unbirdlike appearance. These disks are supported on two folds of skin, on which grows a line of stiff-shafted feathers that extend upward from the angles of the mouth on either side to the forehead, where they curve outward and downward behind the ears, and finally meet under the chin. These disks thus cover the ears, which are very well-developed structures in the owls, with conchs that extend from the base of the beak to just behind the eyes. In many species their openings can be completely closed by large flaps or shutters like those on powder compacts. The really remarkable thing is that in some owls one of the ears is turned downward while the other points upward.

An owl's eye also is a wonderful structure, with a highly contractile iris containing a ring of small, platelike bones. Their eyes are, moreover, quite immovable, and in order to look anywhere but straight ahead, the birds have to turn their heads. This they can do to an alarming extent, however, which gave rise to the old belief that if you once caught an owl's attention and then walked slowly round it, you would eventually cause the poor animal to twist its head right off.

One ornithologist with a particular passion for owls has described how he, in his youth, heard of this belief, found an owl and put it to the test. Sure enough, the bird followed his every movement for several minutes as he walked slowly round and round it, apparently never for a moment taking its eyes off his face. Utterly bewildered and somewhat shaken, he went away, leaving the owl with head still intact, in order that he himself might, as he puts it, "reach a somewhat more mature age." This goal he in due course attained, for he subsequently explains that although owls appear to be able to revolve their heads in a complete circle continuously, they actually snap them back with incredible speed after a certain point has been reached—a point, however, that would only be reached by us sometime after we had ceased to care very much!

Another rather startling gymnastic is quite mundane to most owls. This is an ability to reverse two of their toes at will, so that they point backward instead of forward. Owls' feet are invariably armed with ample talons in any case, as a glance at my own tummy constantly reminds me. When rather young, I came across a large owl entangled in the angle of a wire fence, and with juvenile zoologic fervor, I immediately pounced upon it, gripping it round the back. Then, to examine it more closely, I turned it over, so that I might look at its face, but in doing this I omitted to hold it at my not very great arm's length. Immediately the bird's rather long legs shot out and its talons cut right through my heavy clothing and locked upon some portion of my adolescent anatomy beneath. The following half hour while I groped my way back home with this furious creature anchored to my stomach is memorable, to say the least.

With the exception of a few species like the snowy owl and the burrowing owl and some others, these birds are nocturnal, but this does not mean that they cannot see in daylight. Quite the contrary, their vision is exceedingly acute and they can often spot hawks high in the sky before men can pick them up with field glasses.

In the wild they are retiring creatures, and rest during the day in hollow

THE SATURDAY EVENING POST
Irwin Caplan

"Hey, pop, was there a prize in yours too?"

Does your secret
carry a burden

She's working under a heavy lo
if she uses old-fashioned carbon.
So help the girl by givin
Webster's Micrometric. It's th
carbon paper with the numbere
that helps her turn out neatly
work on the first typing. C
smudges on fingers getting her
Just hold papers at Microm
"clipped corner," separate c
from letters by pulling on the
Easy, clean and speedy. Yet
metric costs no more than
quality carbons. Sold by l
dealers everywhere. Or write
Webster Co., 11 Amherst
Cambridge 42, Mass. Branc
New York, Philadelphia, D
Pittsburgh, Chicago, San Franc

WEBSTER'S
MICROMETI
CARBON PAPEI

AUTHORIZED REPRE
Keystone Readers' S
office 220 South 16th
delphia 2, Pa., is a
scription agency, auth
subscriptions to Curtis
CURTIS CIRCULATION COMPAN

FALSE TE
KLUTCH holds them

KLUTCH forms a comfort cushion; hol
so much firmer and snugger that one c
with greater comfort and security, in ma
as well as with natural teeth. Klu
constant fear of a dropping, rocking, ch
and [illegible] druggists. . . . If your dr
don't waste money on substitutes, b
[illegible] a generous trial
KLUTCH CO., Box 4819 C, EL

This
$45
ELLIOTT ADDRESSING M
prints 21 different addresses p
and CURES
WRITER'S
CRAMP

Stores, Lodges, Clubs, Churches—in
address lists of members, customer
debtors, etc.—are hot prospects for t
A larger model, the Cardvertiser, bo
and also prints advertisements on
penny post cards at a speed of 100 p
If your Office Supply Dealer cann
these machines, send us his name and
we will send literature direct to you.
The [illegible] Machine

ps, in burrows or vegetation. Most habitations, but settled down happily. are owls in many am delighted to learn that ers of the august Smith- Washington has with them for years. A tells me that he once saw an owl between the White House and Building, which gives us that, unlike Rome, today read the columnists than the flight of birds before the republic on its future Other owls live in funny too. The snowy owl likes to sit small eminences on the cold open of the arctic, the tiny elf owl inhabits holes made by woodpeckers in cacti, and the burrowing owls much of their time popping in out of holes that they either dig themselves or inherit from prairie or other rodents.

are solidly ranged almost everybody else, and particular against farmers, game- sportsmen and the owners of nds of domestic fowls, on the sub- of the food of owls. These birds are carnivorous and they hunt very sys- quartering the ground and nd forth, their acute hear- and vision detecting the smallest in the cover beneath them. Their includes small mammals of many ranging from snowshoe rabbits to pocket gophers, rats and mice, small birds, frogs, fish, crabs, crayfish, insects of many kinds, and even on occasion lizards and snakes, according to whether they hunt by day or by night, the territory where they live and the size and tastes of the owls themselves. The larger species even take skunks, as can be recognized instantly by their passing, and great horned owls have been found bristling with porcupine quills.

Farmers and sportsmen have contended for generations that owls kill large numbers of game birds and domestic fowls of all kinds, and they therefore persecute them unmercifully, and often shoot them on sight. This murder of owls is not only moronically asinine but also extremely dangerous to our economy. Ornithologists contest these silly beliefs and stupid practices gamely, but for the most part vainly, though they do so on most solid grounds.

Owls have enormous appetites and most startlingly efficient digestive systems. They sometimes pluck the stiffer feathers from the wings and tails of birds, and they often crush the joints of the limbs of the larger animals that they eat, but they then swallow their prey whole or tear it apart and gobble it in great lumps without further preparation. The digestible parts are ab- ed in the stomach, but the hair, eathers, bones, scales and other in- oluble materials are gathered into a nd subsequently ejected out of mouth after some hours, by means a few gulping motions on the part the bird.

on of these balls or pellets ws what the owls have eaten. Or- both amateur and profes- e been analyzing owls' pel- century and have discovered birds do not, except in rare either game birds , but that, on the do destroy count- ns of noxious rodents every be experts try to make there no owls to keep down these pests, the loss of grain and other crops from the depredations of the rodents, which already costs us scores of millions of dollars a year, would rise to such a staggering figure that it might bring farming to a dead stop. The killing of owls, though one of our lesser idiocies, is thus pregnant with the direst consequences.

Many owls succeed in making themselves practically invisible by standing erect, flattening their feathers, tautening every muscle in their bodies and closing their eyes so that they look exactly like the stumps of dead branches. They then play possum and may sometimes even be picked up and placed on their backs, where they remain absolutely still and taut, just like the stuffed owls kept in ornithologists' study cabinets.

As has been said, owls vary considerably in temperament, both as to species and individually. Apart from screech owls, which are rather crotchety and temperamental, almost all kinds can be tamed, especially if taken as fledglings and carefully raised by hand. They make the most engaging pets, which are sometimes very useful, and not only for catching mice and rats. Owl tamers are even more single-mindedly ingenuous over their hobby than the most fervid falconer. I knew one man who had a score of them, which he kept in a magnificently appointed cellar. He was passionately fond of his owls and they, apparently, of him. He had, on occasion, as many as seven species all housed together, ranging in size from great horned owls to a trio of tiny gray things known, not inappropriately, as little owls. Although several of the larger species have been known to eat the smaller ones in the wild, his pets lived together for years in perfect harmony. Each had its own favorite perch, which it occupied either alone or with one or two others, but not necessarily with members of its own kind.

This man had taught his birds to answer to their names and to obey quite a number of simple commands like "Go fetch 'em," "Come," and "Lie down," at which latter order they would roll over their backs and play possum. H sed to take them out for walks, d on his wrist or shoulder. The ngs were never pinioned and t nd no leashes or chains attached hem, and so were at liberty to go ever they willed. Sometimes one d fly off for the night, but it always turn up in the morning and n come in through the bedroom win before dawn and deposit some ne killed rodent on its master's bed, arently by way of a present, for n of them ever ate these offerings. n out on daytime walks they were st useful, as owls have often prove other bird lovers who have owned them, for they attracted other birds as a magnet does iron filings.

If you are walking through a wood and hear a tremendous rumpus among its feathered denizens, it is very probable that it is caused by a mob of small birds teasing an owl. This is one of the strangest phenomena in nature and very curious to watch. Only one little bird has to spot an owl sleeping in some cover, and within a few minutes there will be a fluttering, hopping, scolding, twittering crowd of all kinds and sizes of birds around the poor bewildered creature, buzzing it, helicoptering in front of its face, and even crash-landing on its back and pecking at it.

Sometimes the little birds even put the poor tired owl to flight, so bold is their attack, prompted, it would seem, by a combination of curiosity, hatred and fear. Take a tame owl out for a walk and the same thing occurs. Birds gather from all sides, and this affords the keen bird watcher unrivaled opportunities, but may also prove quite alarming and even a little dangerous. One ornithologist carrying a tame owl was literally dive-bombed by a large falcon, which knocked off his hat and gouged his neck before he knew what had happened.

Owls themselves, on occasion, indulge in somewhat similar tactics. I had an extraordinary Scotch grandmother who was, I confidently believe, only once in her life really provoked to a display of noticeable emotion. She was returning home one Sunday morning from a rather traditional little kirk in a dense wood, and she was wearing a quite remarkable hat of unknown vintage and hardly credible design, which was firmly anchored to her head by a complexity of immense hatpins. As she passed under an ivy-covered oak tree something descended upon her with a terrifying screech, knocked the hat over her eyes and impaled itself on the pins. With traditional canniness, she grabbed upward with the crook of her umbrella and collared that which had come down upon her, and then quietly proceeded to commit mayhem. Her only comment when we inquired about the blood and feathers on her person and the very unusual angle of her headgear was "Och! Thurr'll be one burrd less the noo!"

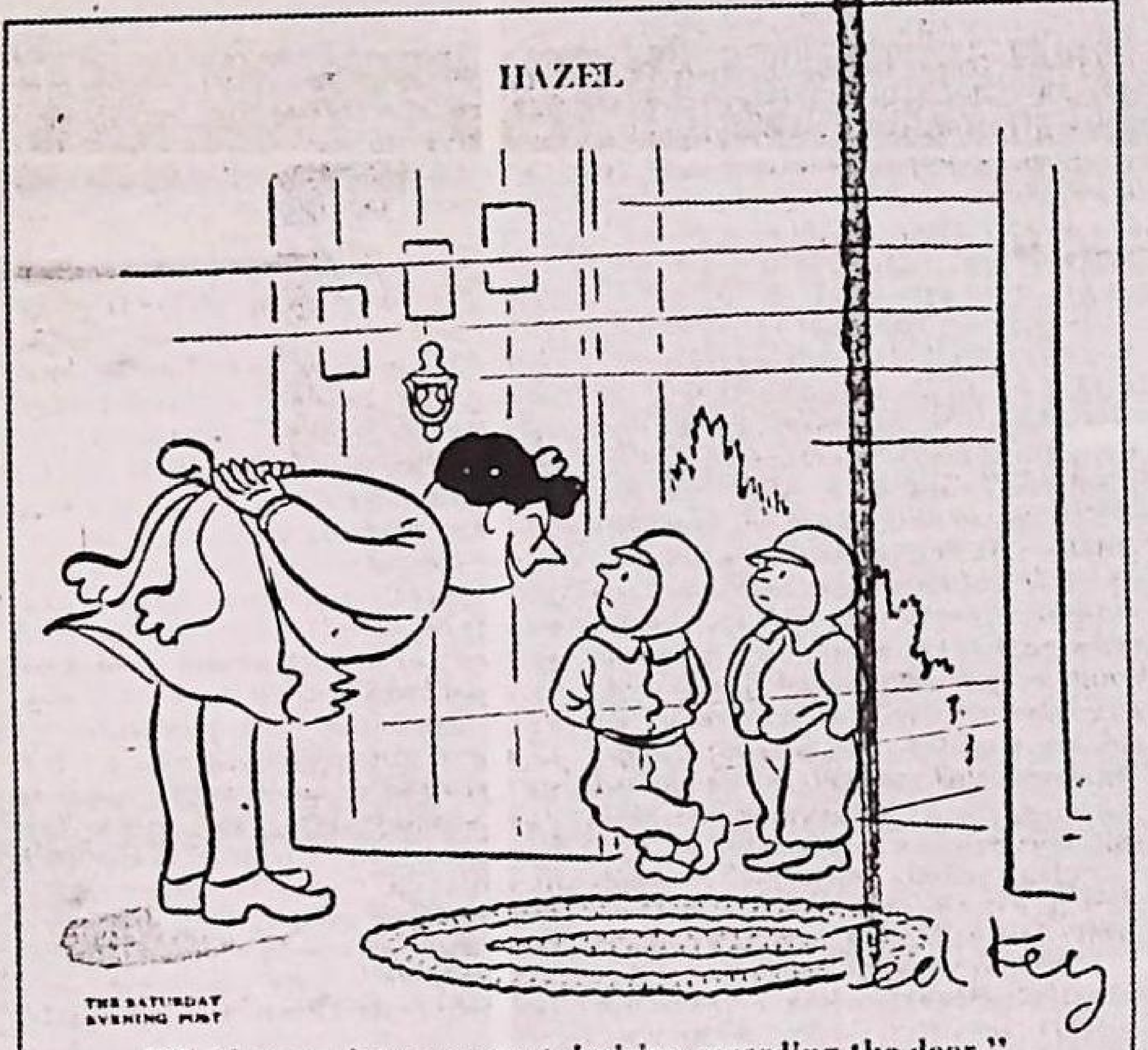
The poor owl had merely been defending its nest and young by a method common to its kind. This habit of immediate and unheralded attack is usually the prerogative of the male bird and has been noted among many species, even the little burrowing owl. An assault by one of the great horned owls is not to be taken lightly, for they can do a lot of damage with their tremendous talons. The females are usually content with defending their nests by spreading their wings, puffing themselves up, assuming threatening postures and glaring horribly at the intruder while they open their mouths and hiss or clatter their beaks menacingly. Some owls start to nest very early in the year, and are occasionally caught in late snowstorms, when they will sit over their eggs until they themselves are completely buried in the snow.

Those that lay their eggs in holes in trees seldom bother to make any nest at all or even to line the holes with any special material, and there are few that actually build proper nests of their own. Owls' eggs are always either white or some shade of buff or pale blue, devoid of markings, and usually elliptical or almost spherical in shape. Owls often do not lay the whole clutch at the same time, so that eggs and young birds in various stages of development may be found together in the same nest. The number of eggs laid by different species varies, but there are sometimes as many as ten. The young are preposterous little balls of white fluff, and they grow very slowly.

Last year I was in London and went to see what damage our latest crop of Continental barbarians had done to the zoo. My favorite department used to be that of the small mammals, but I found that the whole house had been blitzed out of existence. I was wandering gloomily along by a line of open-air cages, pondering this, when something jarred me out of my murderous reverie by yelling "Whoo!" with tremendous gusto. Looking round, I found myself staring into an enormous pair of yellow eyes. While I collected myself and strove for an appropriate answer to this trenchant question which had been so suddenly addressed to me, the great bird slowly lowered the satanic-looking horns of feathers on its brow and quietly closed its eyes.

I looked at the card below the cage and read the name of the bird; reading further, I learned that it had come from the very country where one of its relatives, or possibly even this very individual, had many years ago first asked me that same leading question. Who, indeed, had said "Whoo"? Now I knew. The owl was, of course, no longer interested.

THE END



"We'd appreciate a prompt decision regarding the door."

19 August 1951
Washington Post, D.C.
page 7B, col 3

The Magazine Rack

By Orval Hopkins

POSSIBLY THE MOST SIGNIFICANT article in the books this week is one by Arthur D. Morse in McCall's (due here Tuesday) called "Who's Trying to Ruin Our Schools?" In it Morse warns and reminds you about how "it happened in Pasadena," that it happened in Englewood, N. J., and that it can happen to your school system, wherever it lies—particularly if it needs new buildings which require new tax money.

Morse says the creeping attack on America's schools is being led by one Allen A. Zoll, founder and national commander of the now defunct organization, American Patriots, Inc., which appears on the Attorney General's list as a Fascist organization. At meetings of API, Morse reports, Zoll would trot out worthies like Elizabeth Dilling, indicted three times for treason during the war, Joseph McWilliams, who once boasted, "I'm 100 percent for Hitler," and the notorious, anti-Semitic Gerald L. K. Smith.

Zoll wages war by a tried method: He blasts progressive education, cries that "the Communists are after your child," and calls everybody a Red who disagrees with him. One of his pamphlets is entitled, "Private Schools: the Solution to America's Educational Problems." Morse lists as one of Zoll's aides, Mrs. Lucille Cardin Crain, who he says has "expressed strong disapproval of what she calls our 'compulsory State-operated educational system.'"

These people alone would be ineffective, Morse points out. "What enables them to carry on their programs is the support of well-meaning but misinformed people in communities across the country" who are cajoled into joining innocent-sounding but invidious "school" groups.

• • •

HENRY STEELE COMMAGER, writing in **Look**, gives Harry Truman a lofty seat among our Presidents, particularly those whom people were wont to call names. The historian recalls that Washington and Jefferson were targets for vilification, that Jackson was charged with immorality and even murder, that Lincoln was reviled for his lowly birth. "So in a sense," he says, "Truman shouldn't complain. He is in good company . . . By all normal standards, his Administration has been one of almost uninterrupted and unparalleled success."

Commager says that at no previous time have Americans enjoyed such prosperity, nor ever before in peacetime have farm, labor and corporation incomes been at a comparable peak. He insists, however, that the President's "most important accomplishments are clearly in the foreign field," a field in which he "has revealed a firm grasp on the necessity of combining vigor with moderation, generosity with tolerance, a zeal for peace along with readiness for war."

Also in **Look**, five pages of pictures on "Frogmen's Hell Week." What the rookie aspirant to an Underwater Demolition Team has to do.

• • •

"WE FOUND a blanket of rustling black movement advancing upon us out of the forest and covering every speck of ground and all the herbs, bushes and trees . . . Borne along on this living flood of ants were scores of dead and dying animals . . . We fought them with water, fire and kerosene for two hours, and eventually the host split . . . (it) took nine hours to pass." It's Ivan T. Sanderson, impressing you in the **Saturday Evening Post** with the few-ness of human numbers as compared to the many-ness of animal numbers. He's impressive, too.

• • •

THE FIRST RACE for what came to be known as the America's Cup was held off Cowes, England, 100 years ago next Wednesday. From that time until 1937, the British spent, it's said, something like 20 million dollars trying to get the cup back. Sir Thomas Lipton tried it five times with five different boats. "The Americans put something in the water over there," he used to say, "that kept my yacht from winning—the American boat." It's all engagingly told in **Life** by A. B. C. Whipple.

And on the cover of Life: Barbara

District Affairs

Gen. Robinson Prov Ge

By Ben W. Gilbert

The District's new Engineer Commissioner is a genial fellow, but not the kind who can be pushed around easily.

Brig. Gen. Bernard L. Robinson, who succeeded Brig. Gen. Gordon R. Young in the post on June 1, has already revealed a readiness to dive into troublesome waters to find out what he considers to be "in the public interest."

GILBERT

The Engineer Commissioner is the only member of the three-man board who may be an outsider and usually is. In General Robinson's case, he was brought here from Atlanta, Ga., where he was the division engineer. He was born 50 years ago this May 1 in Sioux City, Iowa.

Since it is rare for an Engineer Commissioner to be assigned to the District for more than a term of three years, he can expect an eventual return to military duty. This situation might result in a fellow being cautiously inactive—determined to keep out of trouble.

IT IS EVIDENT that this is not General Robinson's philosophy.

Already, he has moved actively into the fight over the Potomac River bridge at Shepherd's landing in Alexandria, where he was forced to disagree with no less a congressional power than Rep. Howard W. Smith (D-Va.) Representative Smith wanted the District to pay the freight on this bridge, which is a high-priority Virginia project but less urgent from the District's standpoint. Robinson highlighted this situation in his testimony and urged that the Federal Government pay the entire cost.

His office also has been compelled to file a protest with the National Production Authority when it turned down the application of Woodward & Lothrop to build a 240-car parking garage. Confronted with evidence that the NPA had approved garages in other cities, Robinson secured approval of the Board of Commissioners, and instructed his aides to back up the store's appeal. As far as Robinson is concerned, this is not a matter of just one parking garage. This is a question of whether the city is to be allowed to do something about one of its most pressing problems—downtown parking.

As Engineer Commissioner, he is automatically a member of the District's Public Utilities Commission.
sioners have
dull, but
ings of the
PUC sessions
had been talk
Commissioner
when Robin

ROBINSON
ready grasp of

At the rec
service, obser
Robinson's qu
contrasting sh
tion of some of

An active C
same general
Joseph Dono
make as many

Like Donohu
policy, as far
concerned.

The two C
friends. The
together and

Previous C
their assignme
hesitated to o
others.

Robinson is
hard worker.
beats them to
arriving before
5 p.m. and
practice of wo
ing is otherw
and quiet.

Apparently,
issues. Take t
He is consider
city build publ
he wants to be
his money out
that a study

He is frien
conversation—
cessors. He
Congress lunc
impromptu pi
piano playing

A home-own
occupied in A
here. Recently
his dog moved
st. nw., which

Glad to have

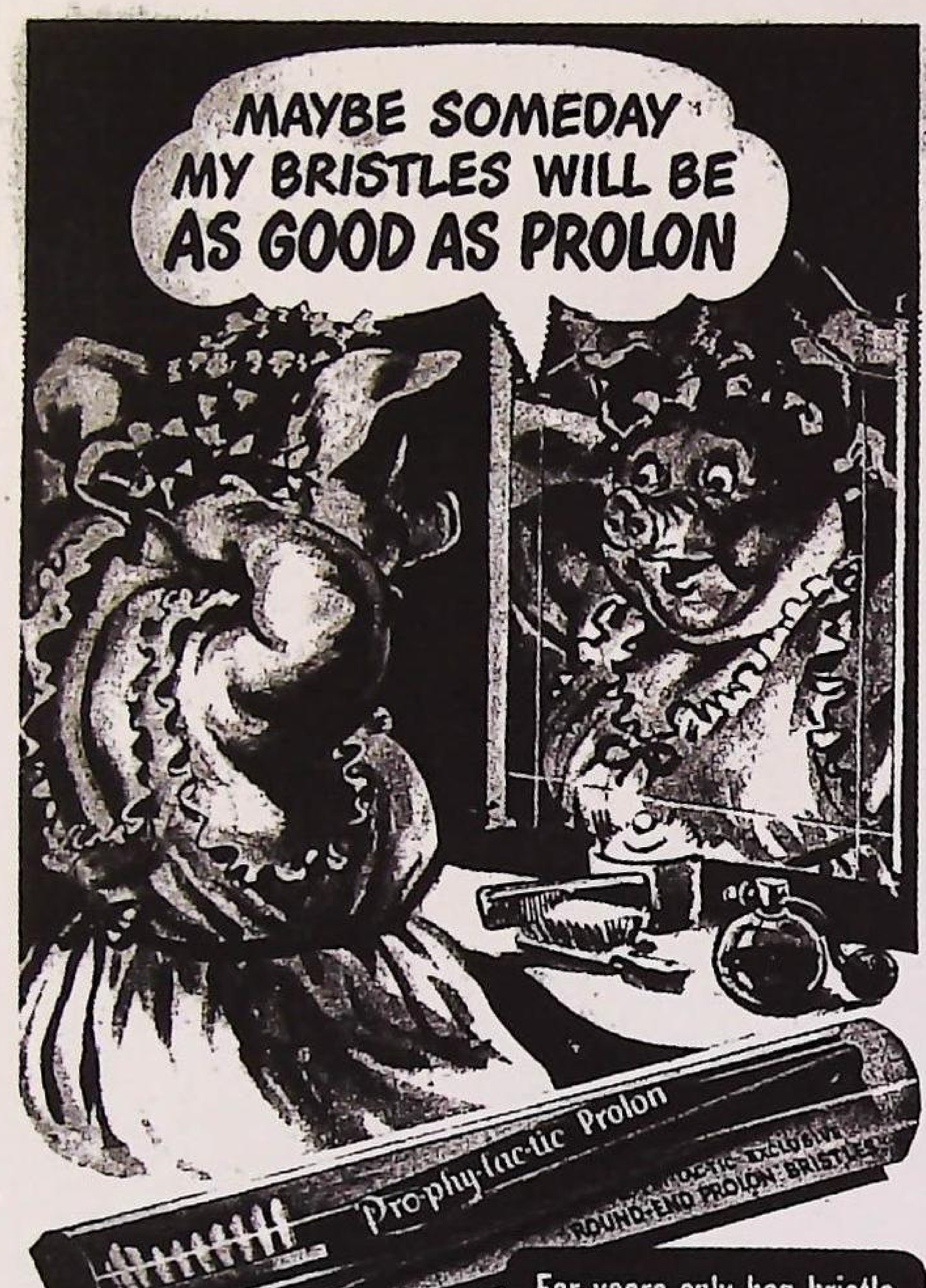
Virginia Affairs

Byrds' Views Diverge on F

By Benjamin Muse

STATE SENATOR Harry F. Byrd, jr., of Winchester, is back from a six-week tour of Europe, where he conferred with numerous ordinary people and big shots, including Winston Churchill, with whom he had lunch. He has published

IN HIS CC
like his famous
"Europe seems
lean," that "I
sources as lim
might must be
might expand
says: "Our sec


MAYBE SOMEDAY MY BRISTLES WILL BE AS GOOD AS PROLON
Pro-phy-lac-tic Prolon
ROUND-END PROLON BRISTLES

For years only hog bristle made fine tooth brushes . . . Then science made round-end PROLON

Actual Photomicrograph

Far and away the best of the new synthetic tooth brush bristles, being marketed under various trade names, are those made by duPont.

"Prolon" is *our* trade name for the very finest grade of this duPont synthetic bristle.

PROLON—no finer bristle made

So, when you read or hear competitive tooth brush claims, ask yourself this: *How can the same duPont bristle, in another brush under another name, last longer or clean better than under the name "Prolon" in a Pro-phy-lac-tic Tooth Brush?* You know the answer . . . it can't!

Only PROLON has "round ends"

Pro-phy-lac-tic's big *plus* is that Prolon is the only synthetic bristle that is rounded at the ends.

It's a fact! *Under a special patented process, exclusive with Pro-phy-lac-tic, we smooth and round the end of each and every bristle in the Pro-phy-lac-tic Prolon Tooth Brush.* See for yourself how much gentler these round ends are on tender gums!

And with PROLON these other "extras"

In addition to round-end bristles, the Pro-phy-lac-tic Prolon Tooth Brush gives you these three important "extras": 1. The famous Pro-phy-lac-tic end tuft, for ease in reaching hard-to-get-at back teeth. 2. Scientific grouping of bristles to permit thorough cleansing of brush after using. 3. Guaranteed for 12 full months of use.

Next time, get the *most* for your money!

Pro-phy-lac-tic Brush Co., *Florence, Mass*

Pro-phy-lac-tic PROLON BRUSHES 50¢

REGULAR PROFESSIONAL

In This Issue

June 1, 1946
Vol. 218 No. 48

5 SHORT STORIES

Rebound . . . . ROBERT CARSON 12
Pinky . . . . CAMERON HAWLEY 36
Two Holes in One . . . . WILLIAM CHAMBERLAIN 21
Tuxedo Blues . . . . GLADYS TABER 22
In the Autumn Time . . . . GENEVA STEPHENSON 28

8 ARTICLES

Rip-Roaring Baillie (First of two articles) . . JACK ALEXANDER 9
Java Journey . . . . MARTHA GELLHORN 11
Socialism Comes to Banbury . . . . ERNEST O. HAUSER 14
Nature's Neon Signs . . . . IVAN T. SANDERSON 17
I Can Hear Again . . . . RICHARD ENGLISH 18
Ten Easy Payments and How They Grew
HENRY D. STEINMETZ 20
The Cities of America—New Orleans (Fifteenth of a series)
GEORGE SESSIONS PERRY 24
The Jumping Snakes of S. S. Adams MAURICE ZOLOTOW 26

2 SERIALS

The Unexpected Warrior (Second part of six) . . ERIC HATCH 30
Lord Hornblower (Third part of eight) . . . . C. S. FORESTER 34

OTHER FEATURES

Keeping Posted 4
Report to the Editors . . 6
Poetry 50, 59, 62, 75, 103, 112, 124
Post Scripts 32
Editorials 136

THIS WEEK'S COVER

JUST after Constantin Alajalov finished his kid-sister painting, he set out from New York for Florida, to work on other cover assignments. The artist went by automobile, and sent back a short report on his three-day journey. The highways are full of displaced persons at the moment, sorting themselves out after the great disruption of war, and we think Alajalov's account is a thumbnail picture of America in Transition. "The first day," he wrote, "I picked up a corporal just back from Tokyo, hitch-hiking to Alabama to marry a girl there. The second day I picked up a marine hitch-hiking to Jacksonville, Florida, to get his wife. The third day I picked up a sailor who was going to Miami for any girl he could get."

The names of characters used in all Post fiction and semi-fiction articles that deal with types are fictitious. Use of a name which is the same as that of any living person is accidental.

The Saturday Evening Post, copyrighted 1946 by The Curtis Publishing Company in U. S. and Great Britain, with title registered in U. S. Patent Office and in Foreign countries, is fully protected by this copyright and nothing that appears in it may be reprinted, either wholly or in part, without special permission. The use of Post articles or quotations from them for advertising promotions or stock-selling schemes is never authorized.

Published weekly by The Curtis Publishing Company, Independence Square, Philadelphia; Cyrus H. K. Curtis, Founder and President from 1883 to 1932. Entered as Second-Class Matter November 18, 1879, at the Post Office at Philadelphia, under the Act of March 3, 1879. Entered as Second-Class Matter at the Post Office Department, Ottawa, Canada.

PRICES—THE SATURDAY EVENING POST

U. S. and Possessions, Canada, Newfoundland and Labrador, Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Mexico, Nicaragua, Panama, Republic of Honduras, Salvador, Spain and South America except the Guianas, 1 Yr., $5; 2 Yrs., $7.50; 3 Yrs., $10; 4 Yrs., $12. Other Countries, 1 year, $9. Remit by Money Order or by Draft on a bank in the U. S. payable in U. S. Funds. All prices subject to change without notice. All subscriptions must be paid for in advance.

Unconditional Guaranty—We agree, upon request direct from subscribers to the Philadelphia office, to refund the full amount paid for any copies of Curtis publications not previously mailed.

The Curtis Publishing Company, Walter D. Fuller, President; Fred A. Healy, Vice-President and Advertising Director; Mary Curtis Zimbalist, Vice-President; Cary W. Bok, Vice-President and Treasurer; Lewis W. Trayer, Vice-President and Director of Manufacturing; Benjamin Allen, Vice-President and Director of Circulation; Robert E. MacNeal, Secretary; Arthur W. Kohler, Manager of The Saturday Evening Post. The Company also publishes the Ladies' Home Journal, Country Gentleman, Jack and Jill, and Holiday.

CHANGE OF ADDRESS

Send change of address (naming publication) or other communications to

THE CURTIS PUBLISHING COMPANY
Independence Square, Philadelphia 5, Pa.

Change must reach us at least 30 days before the date of the issue with which it is to take effect. Send old address with your new, inclosing if possible your address label and making sure to name the publication to be changed. Duplicate copies cannot be sent. The Post Office will not forward copies unless you provide extra postage.

MAGAZINE: THE SATURDAY EVENING POST
DATE: 1 JUNE 1946
VOLUME 218, NUMBER 49
PAGE: 17, 58-60.
ARTICLE: NATURE'S NEON SIGNS
AUTHOR: IVAN T. SANDERSON
THIS IS PAGE: 17

Nature's Neon Signs

By IVAN T. SANDERSON

What are the mysterious cold lights that shine from many insects, animals, plants—and sometimes the fish in your icebox? A noted naturalist explores a bizarre phenomenon.

ABOUT THE AUTHOR

With British conservatism, Ivan T. Sanderson insists on classifying himself as a zoologist rather than an explorer, although his scientific travels have taken him to many of the most dangerous and uncomfortable corners of the earth. He was only sixteen when he made a one-man expedition to the Dutch East Indies. He is slightly more than twice that age now, and his wife goes along on his journeys. He has written three widely read books—Animal Treasure, Caribbean Treasure, and Living Treasure—and various magazine articles, including one on the mysteries of animal migration, which appeared in the Post for July 15, 1944.

—The Editors.

IT would doubtless be most alarming to discover, upon undressing before a mirror in the dark, that one's body was glowing dimly with a cold and steady light. Furthermore, anyone may well be excused for frankly disbelieving that such a thing could happen. Nevertheless, it is, perhaps, just as well to be neither too alarmed nor incredulous, as I shall endeavor to demonstrate.

Once when we were boating about the inland creeks, lagoons and rivers of the swampy east coast of Nicaragua, we became aware of a quite unreasoning disinclination on the part of our local crew to go down a certain very obvious waterway. Having obtained no satisfaction after repeated demands for an explanation of this mild mutiny, we were finally forced to appeal to our captain, a piratical gentleman of somewhat higher understanding and not quite so local upbringing. Two days later he came up with an astonishing story that there was a man living alone by this creek who shone in the dark and who was, therefore, said to be very dangerous!

This, of course, we did not believe, but our hard-bitten skipper simply shrugged, implying that both we and our local crew were very stupid, as there was nothing to be surprised at in this. The man simply ate too much fish, he said, and was filled with phosphorus, a thing about which every intelligent person had heard tell. Our captain believed neither in ghosts, the locals nor the modern logic which discredits anything that has not been reported by at least a thousand experts. We never went down the waterway, however, nor did we see the man who glowed in the dark, but the very next night we witnessed a sight that, by its sheer magnificence, temporarily wiped from our minds not only this but also almost every other odd incident that we had ever experienced, for, as we entered a large salt-water lagoon from the silent black mouth of a narrow creek, we plunged headlong into a caldron of cold liquid fire.

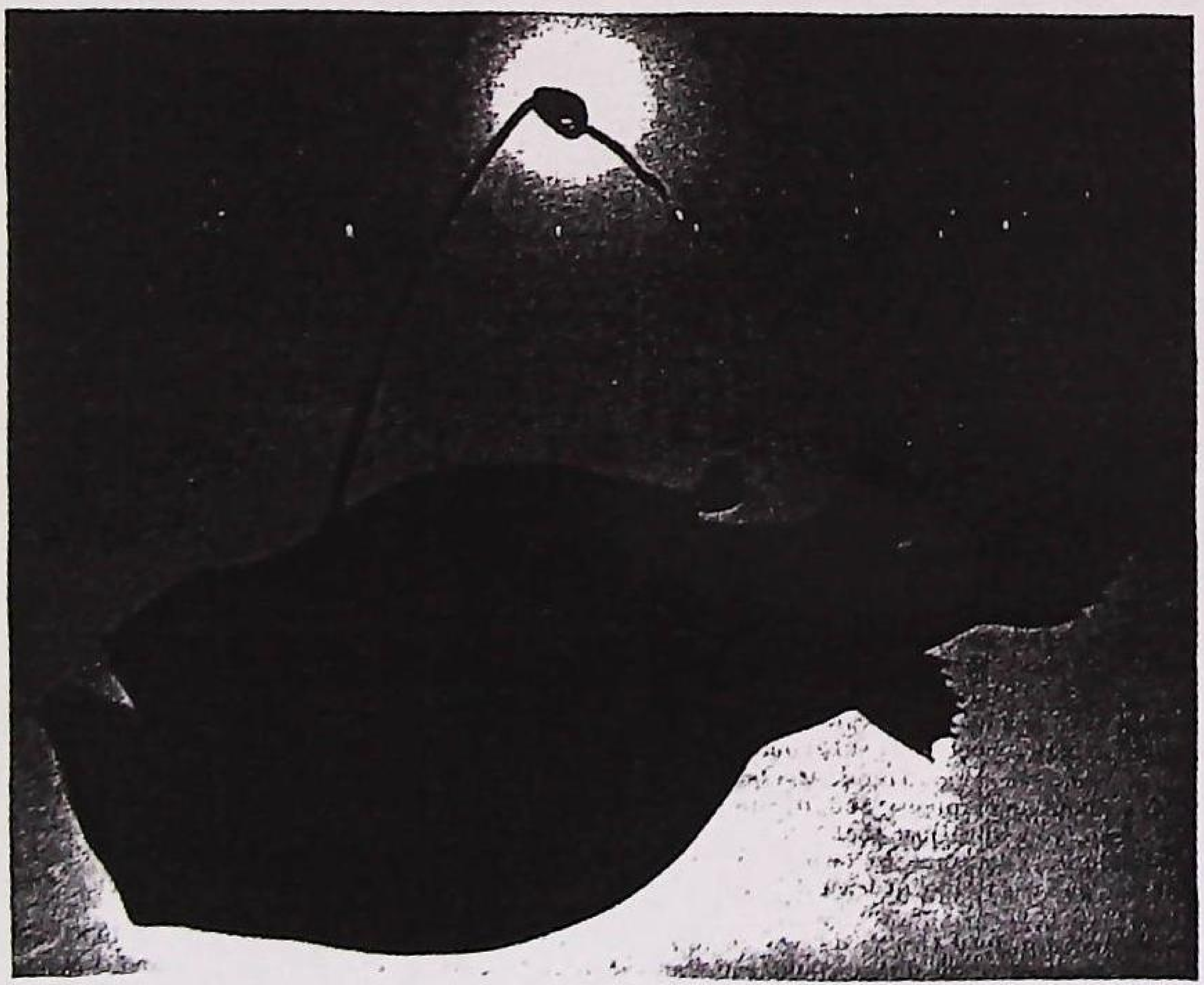
The entire lagoon, as far as the eye could see, flickered and sparkled like a prairie strewn with a million tons of fine-cut diamonds under a thousand arc lights. The night was still and damp, and, stretched over the lagoon from the swampy shores, there was a fine miasma which shone above our heads like a floodlighted ceiling. As our prow knifed through the lambent glory, waves of almost dazzling brilliance radiated outward, lighting up the shallow muddy bottom with a pale jade glow and flooding the mangrove trees that lined the shore as if with a battery of searchlights. For an hour we steamed through this enchanted world of scintillating splendor, a sight so wondrous as almost to pass comprehension. But once again our prosaic old skipper simply shrugged and said, "Phosphorus."

In both cases, however, he was wrong, though the nature of his misapprehension was possibly no more than a matter of semantics. But before questioning our captain's blithe terminological inexactitudes, let us consider the startling and much more basic phenomenon of cold light in general.

What with the sun, ancestral fires in caves, the flaring torches of our barbaric progenitors, candles, lamps, burning forests, prairies and houses and, finally, electric bulbs and furnaces, we have come almost to consider light as being inseparable from heat. A moment's reflection, however, will bring to mind many lights that are not hot, such as the moon, luminous watches and neon signs. Yet we tend rather deliberately to ignore the cause of these mundane things, apart from the moon, which, we have all learned, merely reflects the light of the sun. Indeed, we are only provoked to think upon such matters if, when raiding the icebox at the dead of night, we find the breakfast fish glowing with a steady, baleful, green light. This, somehow, does not seem at all proper.

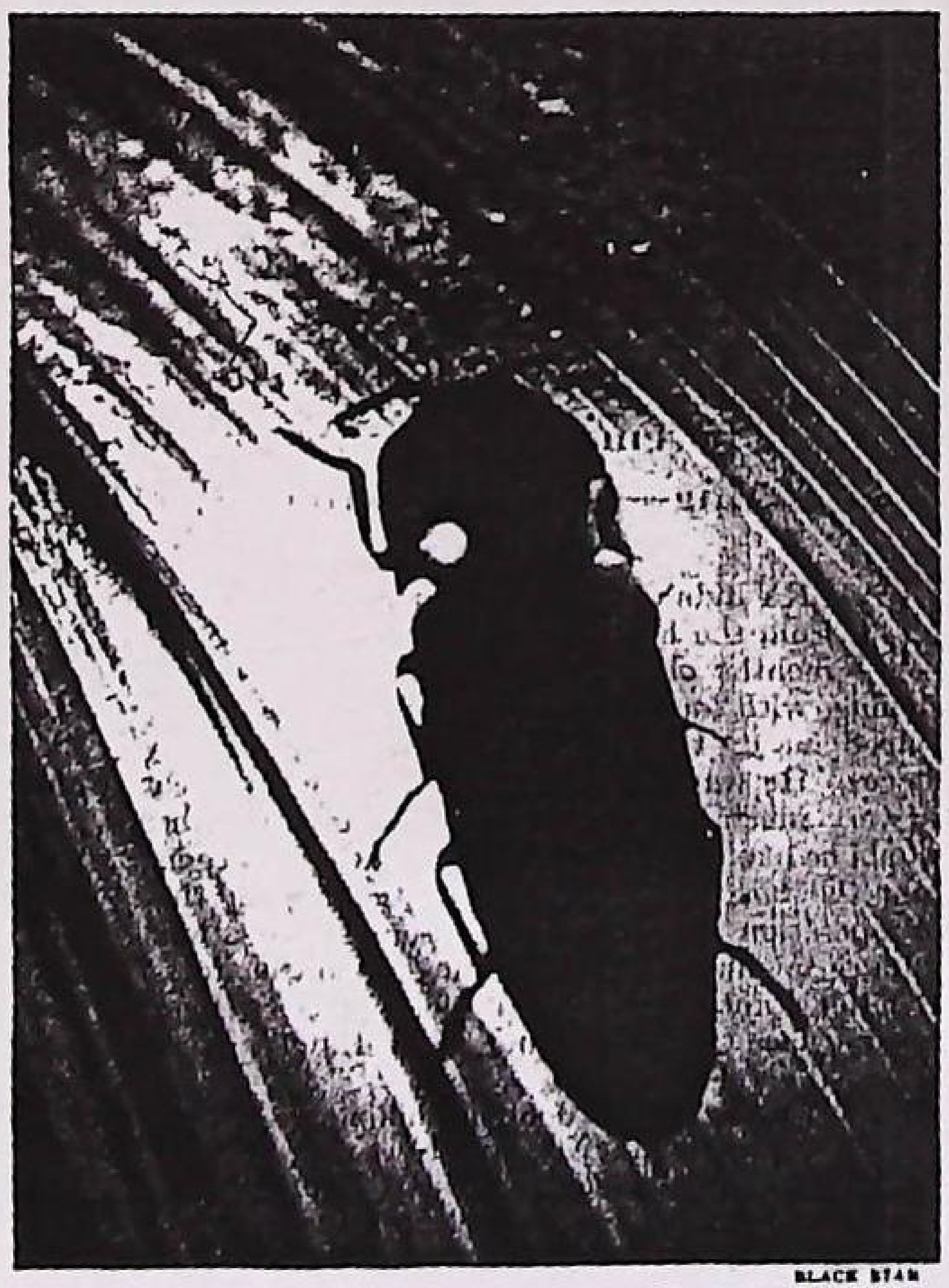
Last year it was reported that a man stumbled upon a brightly glowing beefsteak, but that, in view of the prevailing circumstances, he naturally overcame his surprise and any doubts he may have felt, and promptly ate it. This is, perhaps, rather beside the point.

A little inquiry, nevertheless, will disclose the fact that the world we live in is full of strange heatless lights. Anybody who has combed his hair, stripped off a silken garment or even had occasion to stroke a cat in the dark where the climate is dry, may have seen little blue flashes. Small sparks crackle as they leap from fingers to doorknobs in overheated houses. Diamond cutters know the strange flashes given off by gems when fractured in the dark, and workers *(Continued on Page 58)*



OLLIE ATKINS

A model of the Lesser Angler illustrates his method of appeasing that empty feeling: He turns on his flash bulb, and tiny fish, drawn mothlike, swim right up to the Angler's big mouth.



BLACK STAR

The Pyrophorus noctilucus—a tropical fire beetle—lights up to attract female. If interested, she flashes a reply.

Now!
you can afford
$10,000
Life Insurance

THESE LOW RATES make it possible

Here is a long-term policy that protects you for the expectancy of life based on your age, according to the American Experience Table of Mortality. It has cash and loan values. Rates quoted apply to standard risks.

prove that I can take you away from that heavy-set nurse any time I want to, with dyed hair and one arm tied behind me. You may consider yourself reinstated."

"You are a good, fine woman," Jimmy said. "Listen, that lieutenant didn't tell the truth. I never said that. All that happened was, I had the itch and she ——"

"Never mind the loathsome details. The point is, I will live in a small town, raise your children, correct the grammar in your editorials and wear out-of-date clothes. Is that enough?"

"I can't think of anything else right now."

"Good," his dear wife said. "And now we are going to have a little discussion about your picking up strange women when you're married."

"Go on, Susan," Jimmy said happily. "Rack me back. Bawl the hell out of me."

THE END

NATURE'S NEON SIGNS

(Continued from Page 17)

in sugar factories are well acquainted with the cascade of sparks that may fly through the cylinders where the sugar is dried.

The world of nature, too, is full of little leaping lights, and any woodsman will recall having seen dim, baleful glows in damp places after dark. On closer inspection, these proved to be simply parts of rotten tree stumps, logs or accumulations of dead leaves covered with what appeared to be luminous paint. I shall never forget my sensations upon splitting open a huge, rotten, hollow log lying on the floor of an African primeval forest because I had seen, through a small hole, something shining within. The moldering giant fell apart at the second blow, revealing two immense troughs that were entirely lined with greenish-white radiance, as if moonlight had somehow been painted all over their inner surfaces.

[illegible]

luminous eggs, surely a startling sight even to the birds that laid them, and medical books contain many references to open wounds that shone in the dark. The latter are caused by an infection of luminous bacteria which, as far as can be ascertained, are entirely harmless. The exceptionally gruesome incidence of dully luminous human corpses must, therefore, be explained as a purely fortuitous coincidence of secondary infection, after death, by luminous bacteria. Yet, brilliant as may sometimes be the displays of these lowly plants, they are nothing to the manifestations, often amounting to veritable pageants, put on by certain animals.

Of animal pyrotechnics, the best known is, perhaps, the dance of the fireflies. These small nocturnal beetles have, since the earliest times, intrigued not only such indefatigable nature lovers as the worthy Pliny [illegible]

KID O'Sullivan Says
AMERICA'S No. 1 HEEL
... and sole

Walk A Lot?

Now!
you can afford
$10,000
Life Insurance

THESE
LOW RATES
make it possible

● Here is a long-term policy that protects you for the expectancy of life based on your age, according to the American Experience Table of Mortality. It has cash and loan values. Rates quoted apply to standard risks.

Age	Monthly Rate Per $1000
20	$ .92
25	1.01
30	1.15
35	1.32
40	1.58
45	1.94
50	2.48

At age 35, a $10,000 policy costs you only $13.20 per month and will, should you die during the expectancy period, pay your beneficiary $10,000 or an income for life. This low-cost policy cannot be issued in amounts less than $2,500. Write for full details. Use coupon below.

THE LINCOLN NATIONAL LIFE INSURANCE CO.
FORT WAYNE 1, INDIANA

More than two billion dollars of insurance in force

•

ITS NAME
INDICATES
ITS CHARACTER

MAIL COUPON TODAY

THE LINCOLN NATIONAL LIFE INSURANCE CO.
Dept. S-46, Fort Wayne 1, Indiana

Please send me full details about your Low Cost Plan, which provides ample protection at low cost.

Name____________________
Address____________________
City__________ State__________
Date of Birth____________________

prove that I can take you away from that heavy-set nurse any time I want to, with dyed hair and one arm tied behind me. You may consider yourself reinstated."

"You are a good, fine woman," Jimmy said. "Listen, that lieutenant didn't tell the truth. I never said that. All that happened was, I had the itch and she ——"

"Never mind the loathsome details. The point is, I will live in a small town, raise your children, correct the grammar in your editorials and wear out-of-date clothes. Is that enough?"

"I can't think of anything else right now."

"Good," his dear wife said. "And now we are going to have a little discussion about your picking up strange women when you're married."

"Go on, Susan," Jimmy said happily. "Rack me back. Bawl the hell out of me."

THE END

NATURE'S NEON SIGNS

(Continued from Page 17)

in sugar factories are well acquainted with the cascade of sparks that may fly through the cylinders where the sugar is dried.

The world of nature, too, is full of little leaping lights, and any woodsman will recall having seen dim, baleful glows in damp places after dark. On closer inspection, these proved to be simply parts of rotten tree stumps, logs or accumulations of dead leaves covered with what appeared to be luminous paint. I shall never forget my sensations upon splitting open a huge, rotten, hollow log lying on the floor of an African primeval forest because I had seen, through a small hole, something shining within. The moldering giant fell apart at the second blow, revealing two immense troughs that were entirely lined with greenish-white radiance, as if moonlight had somehow been painted all over their inner surfaces.

These cold, unwinking embers are caused by fungi, or, rather, by a mesh of fine, threadlike mycelia, or roots, which are really the vegetative part of these lowly plants. Toadstools, puffballs, mushrooms, and so on, are only the fruits of fungi, but sometimes bunches of these may also be found glowing all over, though most brightly from the gills arranged radially below their caps. But luminous fungi are by no means the only lights that dot the nights of nature's world. Plants imbued with this strange quality are, however, confined to two lowly classes—the fungi and the bacteria.

It may come as a surprise to those who have had no cause to study these latter creatures—among whose ranks are numbered such pestilential minutiae as the germs of pneumonia, cholera and other well-known nuisances—to learn that there are species which manufacture light as efficiently as our best mechanical devices. Light-producing bacteria are mostly marine, but there are a few fresh-water species, and several types that are found on living or dead animals or plants.

Luminous bacteria constitute the smallest lights known to us. Fifty trillion of them would be needed to create one candle power. They are so small that the light of one individual cannot be seen even with a microscope. These infinitesimal natural powerhouses may be collected from the sea and cultured—that is, caused to multiply by design—in glass vessels, so that their countless combined lights not only produce a strong glow when shaken but actually give off a steady shine like a modern, man-made strip light.

Luminous bacteria are harmless creatures, but they may infect all manner of objects, causing some most startling apparitions. Thus, it is bacteria that sometimes bring about such an unusual appearance in breakfast fish. Several persons have reported luminous eggs, surely a startling sight even to the birds that laid them, and medical books contain many references to open wounds that shone in the dark. The latter are caused by an infection of luminous bacteria which, as far as can be ascertained, are entirely harmless. The exceptionally gruesome incidence of dully luminous human corpses must, therefore, be explained as a purely fortuitous coincidence of secondary infection, after death, by luminous bacteria. Yet, brilliant as may sometimes be the displays of these lowly plants, they are nothing to the manifestations, often amounting to veritable pageants, put on by certain animals.

Of animal pyrotechnics, the best known is, perhaps, the dance of the fireflies. These small nocturnal beetles have, since the earliest times, intrigued not only such indefatigable nature lovers as the worthy Pliny, but also the most matter-of-fact persons, for they are found throughout the warmer temperate and equatorial regions of the world. An immense amount of serious study has been devoted to these insects and, more especially, to their curious habit of concerted rhythmical flashing.

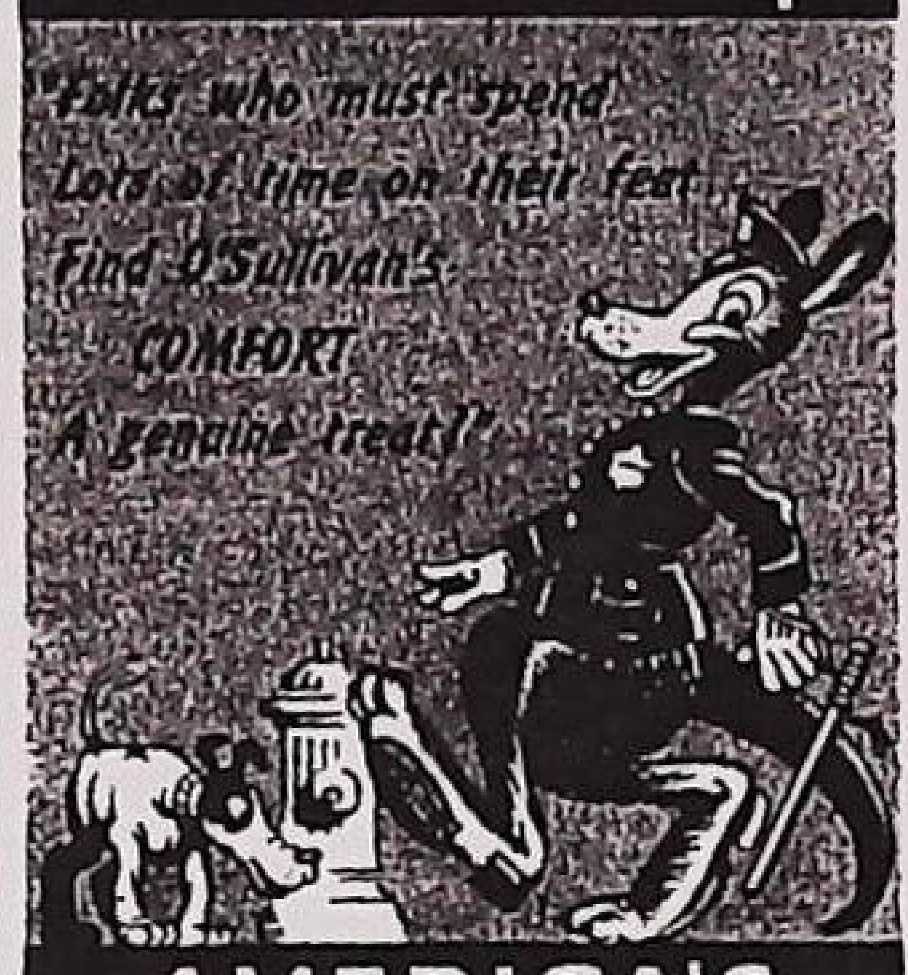
This flashing is a signaling device by which the males attract the females. It is begun by a male when the daylight has faded to a particular point—it may even start at midday when dense clouds obscure the sky—and is answered by a female. Other males then join in, attracting other females, so that the whole community becomes synchronized in two groups, alternating with a regular rhythm. In some species that have been studied, this rhythm has been found to be extraordinarily precise.

Remarkable as are the displays that can be put on by ordinary fireflies, they cannot compare with the incredible spectacles sometimes staged by another type of beetle known as pyrophorus, which inhabits tropical America and is related to the click and deathwatch beetles—those smooth, cylindrically tapering creatures that bore into old wood and leap into the air with a loud click when touched.

There are numerous different pyrophorus beetles, some being an inch and a half long. On the top of their forebodies they bear two eyelike, intensely black spots surrounded by a white ring. These are nothing more or less than flashlights which can be switched on and off, either fast or slow and at any degree of brightness or which can be made to shine steadily with an intense green light. But this is not all of the pyrophorids' standard equipment, for they also carry under the end of their abdomens a large, rectangular flashlight, supplied with similar controls, but which shines with a strong amber light.

Once, on presenting a fine flashlight and some spare batteries to a Djuka chief in Dutch Guiana, we were somewhat peeved to be informed that, although the gift was princely, it could not be regarded as anything but a toy,

KID O'Sullivan Says



AMERICA'S
No.1 HEEL
....and sole

Walk A Lot?

Sprinkle Allen's Foot-Ease on feet and in shoes. Makes such a difference in foot comfort. Relieves tired burning—helps keep perspiring feet dry, odorless—prevents discomfort of sweaty, clammy stockings. 25¢—35¢—60¢. At all druggists or send for FREE sample. Write Allen's Foot-Ease, Suite 310, P.O. Box 166, Buffalo, New York.

ALLEN'S FOOT-EASE

GOLFERS KNURLON Will Help You
LOWER YOUR SCORE

Save strokes! Knurlon embosses a pattern on smooth leather grips. Clubs won't slip in your hands. Stops slicing and hooking caused by slippery grips. Carry in bag. Renew pattern in a jiffy. Knurlon is simple, foolproof. Built to last a lifetime. Sold on

Money Back Guarantee

If your dealer or pro cannot supply you, mailed post paid on receipt of $2.25.

Eagle Tool Co., Clawson, Mich.

BEST for ALL Fountain Pens!

SANFORD'S Penit INK

Flows perfectly. Does not feather edge. Eliminates pen troubles. Ten brilliant striking colors. Sanford's—the world's most famous name in inks.

Kills Garden Insects

RED ARROW GARDEN SPRAY

Use Red Arrow Garden Spray on flowers, shrubs, vegetables, lawns. Kills most common garden insects, yet safe to humans, birds and pets when sprayed. 35c bottle makes several gallons. Buy Red Arrow Spray where you buy garden supplies.

FREE For free chart, "How to Fight Garden Insects," send postal to McCormick & Co., Inc., Baltimore 2, Md.

MEN! MEET THE RAZOR with the HE-MAN BLADE!

DURHAM DORSET

Durham Barber-type

No matter if your chin sprouts baling wire, here's the blade that will conquer it. It's the original Durham-Duplex hollow-ground double-thick blade that holds an edge against all odds. Try it. You'll like the Dorset's excellent balance, too, and its generously wide shaving edge. Get one today. The Dorset with 6 blades, 75¢, or the Durham barber-type 6 blades, $1.00. Durham blades to fit either razor, 5 for 50¢.

DURHAM-ENDERS RAZOR CORP., DEPT. M, MYSTIC, CONN.

since its batteries would not last. Seeing our look of disappointed annoyance, the old chief dashed into his hut and presently returned with a glass jar filled with pyrophorus beetles.

"Look!" he shouted, waving it in our faces. "See! This gives almost as much light, and the new batteries cost nothing!"

Perhaps the most amazing display that we ever witnessed was that of a tree in the forest of Surinam entirely ablaze with these beetles, which had congregated there for some purpose of their own and were all flashing their green lights together in irregular phases. It looked like an immense Christmas tree.

As we approached, however, all the green lights went out. Then on came a myriad amber lights and the whole army peeled off and streamed away through the forest. It may sound ridiculous, but it is nevertheless a fact that pyrophorus uses its amber light for take-offs and landings.

The pyrophorids and the fireflies are not the only insects endowed with lights. There are also the glowworms, which burn with a steady light, and several obscure forms, among them perhaps the most astonishing terrestrial, animal night light of all—the famous "stop-and-go bug" of Brazil. This is a female beetle which retains her larval form and looks like a giant white grub. She bears a row of bright green lights along either side of her body, but on her head is a brilliant red light. All these lights can be turned on or off either separately or all together, or they can be variously left on for a long time.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

QUEENS AND CLUBS

By Paul du Bois

To all our ladies' clubs and social sets
I propose this well-intended motion:
Instead of calling it four-handed bridge,
Why not label it four-mouthed commotion?

★ ★ ★ ★ ★ ★ ★ ★ ★ ★

Apart from insects, luminous land animals are a comparative rarity. There are, however, earthworms that give light. Not only do they glow from stem to stern but they are filled with luminous fluid that exudes from their pores to mingle with the slime that covers their bodies. This readily rubs off. They are also able to spit cold liquid fire.

Another type of luminous land animal was brought to our attention in a rather dramatic manner. We had succeeded in losing ourselves on the top of a range of grass-covered mountains in one of the darker parts of West Africa. Night descended upon us, but the friendly local inhabitants very considerately came out to collect us. To get home—which was at that time a house in a small village of mud huts—we had to pass through a belt of dense mountain forest where the darkness was even worse confounded. In fact, we could not see at all, so one of our guides called a halt and grubbed about in the bushes. Presently he came back with a handful of twisting golden flame, pieces of which he separated, broke in two and entwined in the wire-like, frizzy hair of his companions. We then formed in line and set off again, each of us following one of these sparkling lights as it bobbed along just before our eyes. On getting safely back to our mud hut, we naturally grabbed for these little beacons, and you can imagine our surprise when we found that they were pieces of long thin centipedes.

The majority of animal lights are, however, found among the denizens of salt waters. Most of these live either at the top or at the bottom of the sea. This may seem a rather redundant remark, but it will explain why their very existence is sometimes unsuspected, even by those who live near the seashore, for luminous species are not plentiful in the waters in between or in coastal or other shallow waters. The greater number are to be found in the depths of the oceans, where they were first observed in all their living glory by Dr. William Beebe, who has so ably described the fantastic world half a mile down, in the eternally pitch-black depths.

Many of these deep-sea creatures are fish of extraordinarily fantastic shapes. Some are arrayed with lines of slashing port lights, others have lamps on their heads or lanterns on the end of rod-like feelers.

Some have lights of several different colors; others, groups of lights arranged in rosettes or inside their mouths, while still other species are literally painted in radiance, like a lighted greenhouse on a dark night.

However, not all deep-sea lights are caused by fish, for there are also many luminous squids—octopuslike creatures with elongated, cone-shaped bodies—and many crustaceans related to the shrimps. Some of the former have rows of little floodlights emanating from small, hemispherical structures arranged about their eyes, while others carry pseudo flares on their tentacles or have their bodies bespattered with hundreds of tiny glowing specks. One species, from the Indian Ocean, has lights of three different colors—two shades of blue and brilliant red. Certain squids and many deep-sea shrimps have also developed a most remarkable fiery defense system—sort of cold-flame throwers. They manufacture a luminous substance in special glands, and when attacked they squirt this out in a cloud before them, while darting away backward.

Yet, despite the statement made above that luminous animals are rare in shallow seas, some of the most astonishing forms live at no great depth. In the Banda Sea, in the East Indies, there dwell some small fish of rather commonplace design that always have curious organs under their eyes. These can only be described as searchlights. They are composed of kidney-shaped cups filled with hundreds of columnar cells between which is arranged a network of blood vessels. These cells are hollow, and they are invariably packed full of moving bacteria of a species that gives off an intense light. The most staggering part of the whole mechanism, however, is that the fish have also developed curved opaque shutters like eyelids, which can be raised at will to shut off the light. When these shutters are open, the headlights cast wedge-shaped beams like those of an automobile.

There are curious little creatures related to crabs, shrimps and lobsters, known as ostracods, which are enclosed within two shells just like a tiny clam. In Japan these are collected and

People whose success depends on writing know they can depend on Scripto Pencils

"I cover the world with a Scripto Pencil"
SCRIPTO

ROBERT ST. JOHN
Distinguished radio reporter and commentator; lecturer; author of "It's Always Tomorrow" and other books

On the job of gathering and handling news, a pencil is one tool a reporter needs. It must be dependable. And that's the same as saying "It must be a Scripto Mechanical Pencil."

The Scripto Pencil is always ready to work when you are. Its long 4-inch lead averages 22,000 words without replacement. Engineered dependability and the long-lead feature have made Scripto the choice of successful career people in every field. Join the millions who use Scripto Pencils, and enjoy a new experience in writing satisfaction.

Scripto
REG. U.S. PAT. OFF.
the PENCIL of the pro's

Your choice of clear-view or opaque plastic
20¢

Scripto Manufacturing Company, Atlanta, Ga. Makers of the world's largest-selling mechanical pencils. Also no-smudge erasers and quality leads in 10 degrees of black and 17 colors

dried for sale. This animal is a little bit larger than a grain of barley and gives a very intense greenish light when alive. If the dried animals be moistened, they will again glow vividly, even after many months, and the Japanese bring them, thus glowing, to their temples at the time of certain festivals.

Some of the most beautiful animal lights are displayed by various marine worms. One night when anchored among some small cays and coral reefs off the coast of Honduras, we were startled to see a moonpath suddenly burst out upon the surface of the sea when the sky was clear, but the moon had not yet risen—in fact, was not due to rise for many hours. This glittering path spread slowly toward us from the outer reef until our little schooner was riding in a sea of the utmost fantasy. Every few feet over its surface, green lights of startling intensity would suddenly burst forth and then trail along in the gentle current with an ever-widening cloud of luminescence streaming out before them. We finally caught some of these, and they wriggled about, lighting up the whole interior of the bucket with their hard cold light. They were little, glassy, multilegged worms, one of several species which rise at certain seasons from the depths of the reefs in order to mate. The females squirt clouds of luminous material into the water to attract the males.

But how, one may well ask, do animals produce these lights? There is an unreal, almost an uncanny quality about these little powerhouses, silently generating away in the bodies of obscure and bizarre animals and, in any case, all fires without heat seem to be a contradiction in terms.

Light, which is a radiation of energy, is of two kinds. Any solid matter, when heated, eventually begins to glow, and this light is known as incandescence. When, however, certain substances are stimulated by types of energy other than heat, cold light may be given off, and this is known as luminescence.

The animals and plants mentioned above have evolved ways of storing up one or more highly complex organic substances which, when brought into contact with the oxygen in air, water or blood or when allowed to mix together, set off a rapid but heatless burning, known as oxidation. This purely chemical stimulation causes the atoms of which the substances are composed to give off waves of energy in the visible band.

The most wonderful aspect of this natural phenomenon is the many ways in which the animals and plants set the stage for this purely mechanical action. In this, animals millions of years ago achieved success in fields that still cause us much puzzlement. We have only recently perfected our cold strip lights and flashing neon signs, and we have done so only by the erection of mighty powerhouses to produce the energy which must be constantly fed to these imprisoned gases before they will luminesce. The bacteria long ago discovered how to do this with greater efficiency and entirely within their minute bodies. The fireflies developed a better and surer make-and-break system than our own; their bulbs never blow and their wiring never shorts.

There are those animals like the centipedes, the worms and the deep-sea squids and shrimps which manufacture special substances in glands and then, either by nervous control or simply by muscular contraction, eject or exude them into the air or water. The oxygen in the air or water sets off the chemical action that causes luminescence.

The most elaborate devices are, however, to be found among those creatures which produce the illumination within their bodies, such as the fireflies, the "stop-and-go bugs," the fish and some squids. Sometimes the two substances are kept carefully apart within the animal until light is desired. In others, oxygen is brought to a single substance, in air, water or blood by means of a network of breathing tubes or blood vessels the tips of which have little nozzles controlled by the animals' nerves. Thus, mixing can be turned on and off at will, as in the flashing of the fireflies.

Many animals using these methods have developed organs exactly like eyes in which the light-making machinery is housed. A main trunk nerve leads to these organs. They are spherical and hollow, and lined with cells containing the appropriate light-making substance or substances, and these in turn are surrounded by an opaque envelope, the inner surface of which forms a reflector. Most astonishing of all, they are often supplied with a lens to concentrate the outgoing rays and sometimes even with shutters that can close over this, as in a camera. The buttonlike lights around the eyes of some squids are constructed in this manner.

Last, there are the very simple creatures, the bacteria and the single-celled animals, in which light appears to be produced by minute granules scattered about inside their bodies. They may be provoked to flash by any kind of stimulation. Minute as they are, these are the creatures that give the greatest displays.

At present in our world, cold lights, apart from luminous watch dials, strip lights and neon signs, are little more than toys. The application of black light is well known in those novelty shops filled with little pictures and statues that glow green or mauve. Costume jewelry of hollow glass filled with neon gas in which globules of mercury luminesce when shaken is another example. However, during the blackout in Europe certain more practical applications, such as luminous handrails and curbstones, have led to some surprising suggestions for the future.

Study of the means by which animals create cold light has led decorators to envisage wall paints that will luminesce in various colors, doing away with the necessity for light fixtures, and designers to predict materials that will glow like liquid fire. Light may be produced by batteries directly, without the necessity of bulbs or wires, and torches made to flash or give light simply by shaking, as with a jarful of pyrophorus beetles or by the slow mixing of harmless chemicals. One humorist has even suggested—not without horror—that we may yet live to see luminous eggnogs.

The so-called phosphorescence of the sea, which is neither phosphorescence nor necessarily has anything to do with phosphorus, is caused by tiny single-celled, pinhead-sized, tomato-shaped animals with little tentacles, or tails. The best known is called *Noctiluca miliaris*, or, roughly, "The nightlights that come by the millions." Sometimes they occur in absolutely cosmic multiplicity, as in that lagoon off the coast of Nicaragua. In some places they often recur at regular seasons, when they provide spectacles that can almost amount to national events like the "Fire Lake" at Falmouth Harbor in Jamaica, which is widely known.

The bacteria are even more numerous individually, but due to their infinitesimal size they do not manage such magnificent displays. Rather do they produce the bizarre, of which several examples have already been given, for luminous bacteria get into things, irrespective of whether they are dead or alive, animate or inanimate. This brings us back to our sour old captain.

You will have observed in what manner he erred when he stated that the lagoon was alight because of phosphorus, and you may well have concluded that his explanation of the reputedly glowing man was something more than a mere misnomer. Perhaps, however, this was not exactly the case—as so often turned out concerning that man's pithy comments—for I recently came across a report in a ponderous and highly authoritative, though admittedly rather old, scientific tome that described a gentleman who glowed in the dark and who sweated "cold fire." Peradventure, the poor Nicaraguan had become infected, or infested, with a harmless bacteria that, after all, did cause him to glow balefully in the dark and also to live alone on a gloomy bayou shunned by his less lustrous fellow mortals.

THE END

TOM HENDERSON
THE SATURDAY EVENING POST

"Take a look at this pie, Joe—it cuts like it might be a little stale."

new
and Amazing
BATH LUXURY
TUBLETS
Schratz
TUBLETS
Schratz
SINCE 1888
DETROIT 26, MICHIGAN

Different. Exclusive. A modern bath capsule in colorful jewel tones!
- Perfumes the bath
- Softens the water
- Leaves the skin satin-smooth
- Relaxes and refreshes you

No fuss—no measuring . . . one Tublet does it all. Just drop a Tublet into the tub while drawing your bath. Comes in handy Travel Package.

Four exquisite fragrances . . . Gardenia, Apple Blossom, Whispering Pine, Lavender. $1.25 box of 16 Tublets, plus tax.

At home or away—Use a Tublet a day.

At Cosmetic Counters everywhere, or write us.

Creators of Tub O'Bubbles, Sun Valley Bath Luxuries and Schratz Bath Crystals.

MAGAZINE: THE SATURDAY EVENING POST
DATE: 7 DECEMBER 1946, VOL. 219, #23
PAGES: 25, 50-52, 54-56

...don't let it become

"Just a Memory"

Simoniz Your New Car . . . And It Will Be More Beautiful Today and Ever After!

Keep your car clean and free of winter slush and dirt. SIMONIZ not only protects the finish from damage, but makes it easy to keep your car clean and sparkling in any weather without washing. Just use a dry cloth to wipe off dust and dirt.

The Sooner Any Car Is SIMONIZED, the Longer the Finish Lasts

In This Issue

Decem[illegible] [illegible]6
Vol. 219 [illegible]3

4 SHORT STORIES

Pass the Word . . . . CHARLES ELLSWO[illegible] 1[illegible]
Pot o' Gold . . . . STANLEY F. DO[illegible] 20
Eve and the Sea Serpent . . . . PHILIP [illegible] 25
The Over-All Picture . . . . . . IRVING GAYNOR N[illegible] 30

NOVELETTE

Winter Upheaval . . . . NELIA GARDNER [illegible] [illegible]4

8 ARTICLES

Why We Changed Our Policy in Germany
JOSEPH and STEWART AL[illegible]
Very Suspicious Characters . . . SIR WILLIAM P. HILD[illegible]
The Wallace Legend . . . . FRANK R. K[illegible]
My Life With the Redskins . CORINNE GRIFFITH MARSH[illegible]
A Great Stroke of Luck . . . . ROBERT M. YO[illegible]
The Riddle of the Mammoths . . . . IVAN T. SANDER[illegible]
The Cities of America—St. Louis (Twenty-fourth of a seri[illegible]
JACK ALEXA[illegible]
The Patient Spinners of Plymouth . . . ARTHUR W. B[illegible]

2 SERIALS

The Chisholm Trail (First part of six) . . . . BORDEN C[illegible] 9
Bright Was the Sword (Fifth part of six) . . . . ERIC HA[illegible] 36

OTHER FEATURES

Keeping Posted . . . . . 4 Post Scripts 34
Report to the Editors . . 6 Editorials 184
Poetry . . . . 38, 94, 152, 1[illegible] 174

THIS WEEK'S COVER

WHEN Norman Rockwell paints a common predicament, about all that remains to be told is the identity of the players. In the role of the young man who didn't expect the bill would be quite this much is Peter Rockwell, the artist's youngest son. In the role of the

The Riddle of the Mammoths

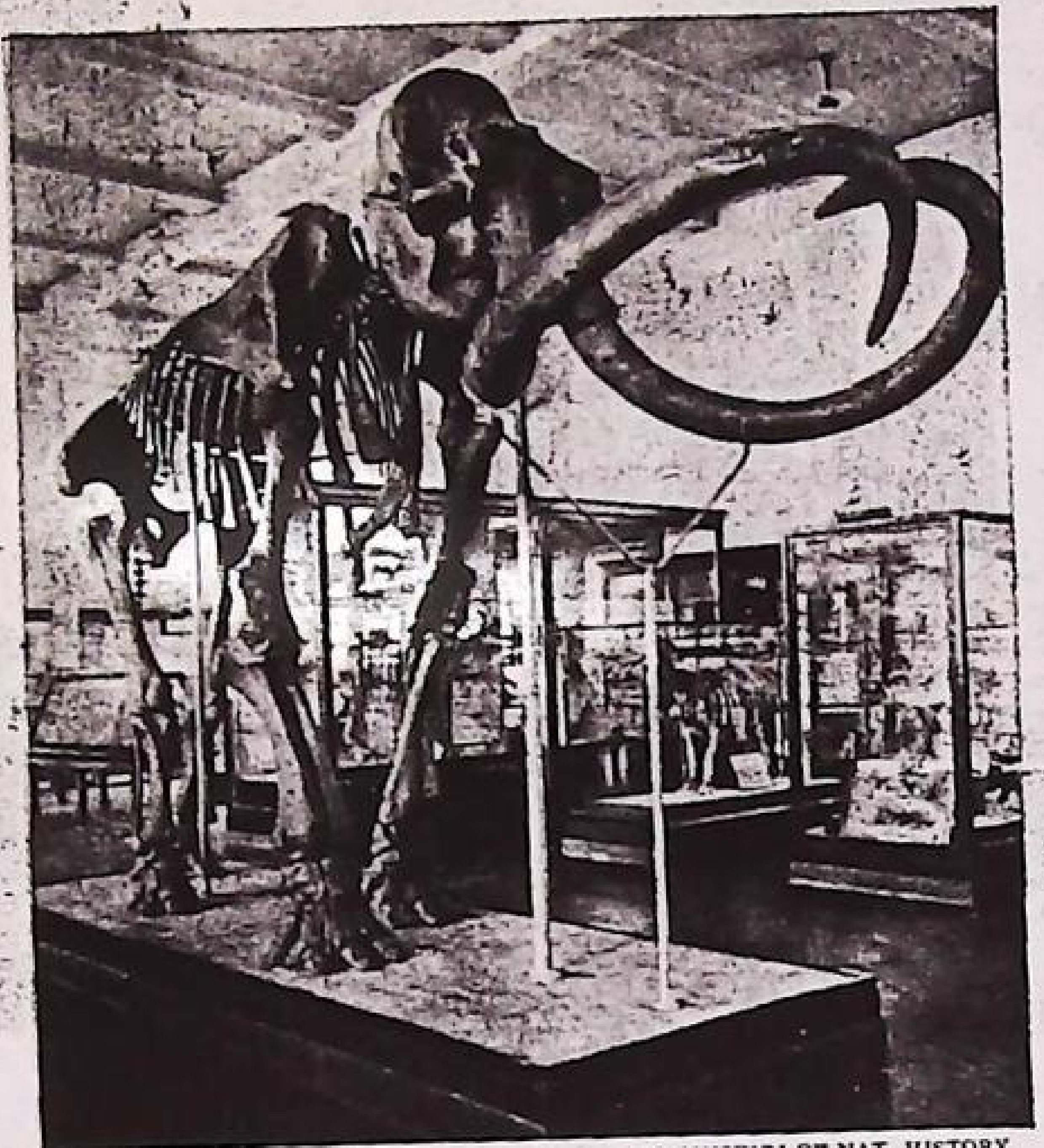
By IVAN T. SANDERSON

What happened to the gigantic animals that once roamed the Arctic? Here are some secrets pried from the vast natural icebox in which rhinoceros and elk steaks have been kept edible—but barely—for hundreds of centuries.

IN this year of desperate food shortages and reconversion, it may not be altogether inappropriate to introduce the subject of 50,000-year-old steaks and an icebox with a capacity of several million cubic miles. It should be added, however, that the men who sampled the prehistoric steaks became violently ill and the million-mile icebox is crammed with muck and exudes a most noisome stench.

That a fifth of our earth's surface is permanently frozen has been known to a few people for a long time and partly appreciated by millions of nomadic tribesmen for countless aeons, but the fact still comes as a great surprise to the average dweller in temperate climes. Although a considerable library has been published on the subject and our own citizen army has recently come into unpleasantly hard contact with some of its nastier features, there is still an enormous amount of confusion about the real and exact nature of this frozen land. The whole subject is a fascinating one, and it may have a very vital bearing on the future of our race.

Records indicate that semifossilized skeletons of elephants have been unearthed in various parts of Europe from earliest historical times. They were explained by contemporary learned folk with characteristically inaccurate aplomb, as being the bones of either giants, AWOL remnants of Hannibal's little effort in the Alps or the losses of medieval equivalents of P. T. Barnum. One such skeleton, excavated in 1696 in Gotha, was peremptorily dismissed as a mere "earthy phenomenon." But the Russians were eventually forced to recognize the not inconsiderable trade in tusks that stemmed from their newly acquired East Siberian territories and which had been carried on for centuries with the Orient, as evinced by a Chinese record dated 400 B.C. Modern co [illegible] from the tax returns of


AM. MUSEUM OF NAT. HISTORY

After 25,000 to 100,000 years in the Arctic's refrigerator, this mammoth wears its age lightly.

extreme north. When the New Siberian Islands—in the Arctic Ocean, some 300 miles north of the mouth of the Lena—were reached, veritable graveyards of elephant bones were discovered. Then, in 1707, a Dutchman named Evert Ides, while on his way to China from Moscow, heard of one of these tusk-bearing beasts that was still partly enclosed in flesh and from which a complete frozen foot had been detached and brought to a Russian settlement. Ides reported that this foot belonged to the animal which

and a lot of moisture. If this mixture is chilled below a certain point, the moisture freezes and the whole thing is converted into an extremely hard substance. It becomes, in fact, a kind of rock and, provided the temperature does not rise above freezing point, it remains so indefinitely.

The same thing applies to pure water, without sand grains and particles of organic matter, so that ice is, both technically speaking and in fact, just as much a rock as granite. This may seem odd to us dwellers in warmer lands, because we have learned to regard water as a liquid. Actually, like all substances, it has a solid, a liquid and a gaseous form, according to the temperature. If the temperature is above the boiling point, we call it steam; if below the freezing point, we call it ice, and regard both states as impermanent. In cold places, such as six feet below the surface in Northern Siberia and Alaska, ice is the natural form and water the exception.

These places, moreover, have been cold for an unconscionable length of time—in fact, at least since the last ice age, and probably since long before that. Thus, earth or ice that was frozen hundreds of thousands of years ago remains unchanged until thawed and washed away. Moreover, if layers, banks or drifts of snow persisted through the summer in exceptionally cold years, they became compressed into ice. Similarly, floods sometimes became frozen. Both might be covered with layers of silt during subsequent floods, which, in turn, froze and sealed them below. This process happens today and presumably has been going on for tens of thousands of years, so that the frozen land of the Arctic is like a great layer cake—strata of frozen earth and of ancient ice alternating with one another, and both acting as a rock. This mass varies in thickness from a few to over 1300 feet. It never thaws below six feet, where the temperature is perpetually at, or has been published on the subject and our own citizen army has recently come into unpleasantly hard contact with some of its nastier features, there is still an enormous amount of confusion about the real and exact nature of this frozen land. The whole subject is a fascinating one, and it may have a very vital bearing on the future of our race.

Records indicate that semifossilized skeletons of elephants have been unearthed in various parts of Europe from earliest historical times. They were explained by contemporary learned folk with characteristically inaccurate aplomb, as being the bones of either giants, AWOL remnants of Hannibal's little effort in the Alps or the losses of medieval equivalents of P. T. Barnum. One such skeleton, excavated in 1696 in Gotha, was peremptorily dismissed as a mere "earthy phenomenon." But the Russians were eventually forced to recognize the not inconsiderable trade in tusks that stemmed from their newly acquired East Siberian territories and which had been carried on for centuries with the Orient, as evinced by a Chinese record dated 400 B.C. Modern computation from the tax returns of traders has demonstrated that during the first 250 years of the Russian occupation of Siberia, almost 100,000 tusks were forthcoming for this trade. This was a state of affairs that could not well be overlooked, and the Russians early began to interest themselves in the origin of this northern wealth.

The natives of Northeastern Siberia, of whom there are about 1,000,000—the Tungus, Koryaks, Yakuts, Chukchis and Samoyeds—were not much help because of their quaint beliefs. They explained that the tusks, often along with lots of huge bones, came out of the ground, and they attributed them to various kinds of colossal creatures—either fish, burrowing beasts or even birds. They said that these still existed in caves on the shores of the Arctic Ocean and that they fed on corpses washed up by the tides. Not altogether illogically, they claimed these beasts lived in the ground and used their tusks for digging. They affirmed that earthquakes were caused by a drove of them burrowing along at top speed just under the surface, a notion that had drifted down with the ivory to China, where the beasts were considered to be giant moles.

The whole business could no longer be ignored, however, when, in 1611, an Englishman named Jonas Logan bought a tusk from the Samoyeds on the shores of the Arctic Ocean, and took it to London. Accounts of the consternation which ensued among our learned forebears provide amusing reading. At first the whole thing was doubted. Then some foreigners who had traveled in Russia returned with well-authenticated accounts of elephant skulls with the tusks still attached being common in the extreme north. When the New Siberian Islands—in the Arctic Ocean, some 300 miles north of the mouth of the Lena—were reached, veritable graveyards of elephant bones were discovered. Then, in 1707, a Dutchman named Evert Ides, while on his way to China from Moscow, heard of one of these tusk-bearing beasts that was still partly enclosed in flesh and from which a complete frozen foot had been detached and brought to a Russian settlement. Ides reported that this foot belonged to the animal which his fellow countryman, named Witsen, had heard about in Moscow some forty years before and which he had called a mammoth.

AM. MUSEUM OF NAT. HISTORY

After 25,000 to 100,000 years in the Arctic's refrigerator, this mammoth wears its age lightly.

As the western world thus became slowly convinced that there truly were large elephants' corpses lying about in some profusion in Northeastern Siberia, there arose a tremendous controversy that has lasted for the past 200 years. For a long time it was assumed that the beasts had been killed in that flood which is mentioned in the Bible, and washed out of India and other tropic lands to be deposited in the far north. This assumption, moreover, is in some respects understandable, in view of the general beliefs of the eighteenth and early nineteenth centuries and more especially of the fact that the very existence of the frozen lands was virtually unknown.

This frozen land stretches all across the north of Russia and Siberia, through Alaska and along the top of Canada. It is something special and distinctive, being originally earth, as opposed to rock, and containing a variety of peats, gravels, sands and so-called "mucks." When it thaws, it often gives off an almost overpowering stench, owing to the partly decayed vegetable and animal matter which it contains. The nature of this frozen land, or muck, as it is known in Alaska, is of interest, and a brief survey of the method of its formation is essential to a proper understanding of its bizarre contents.

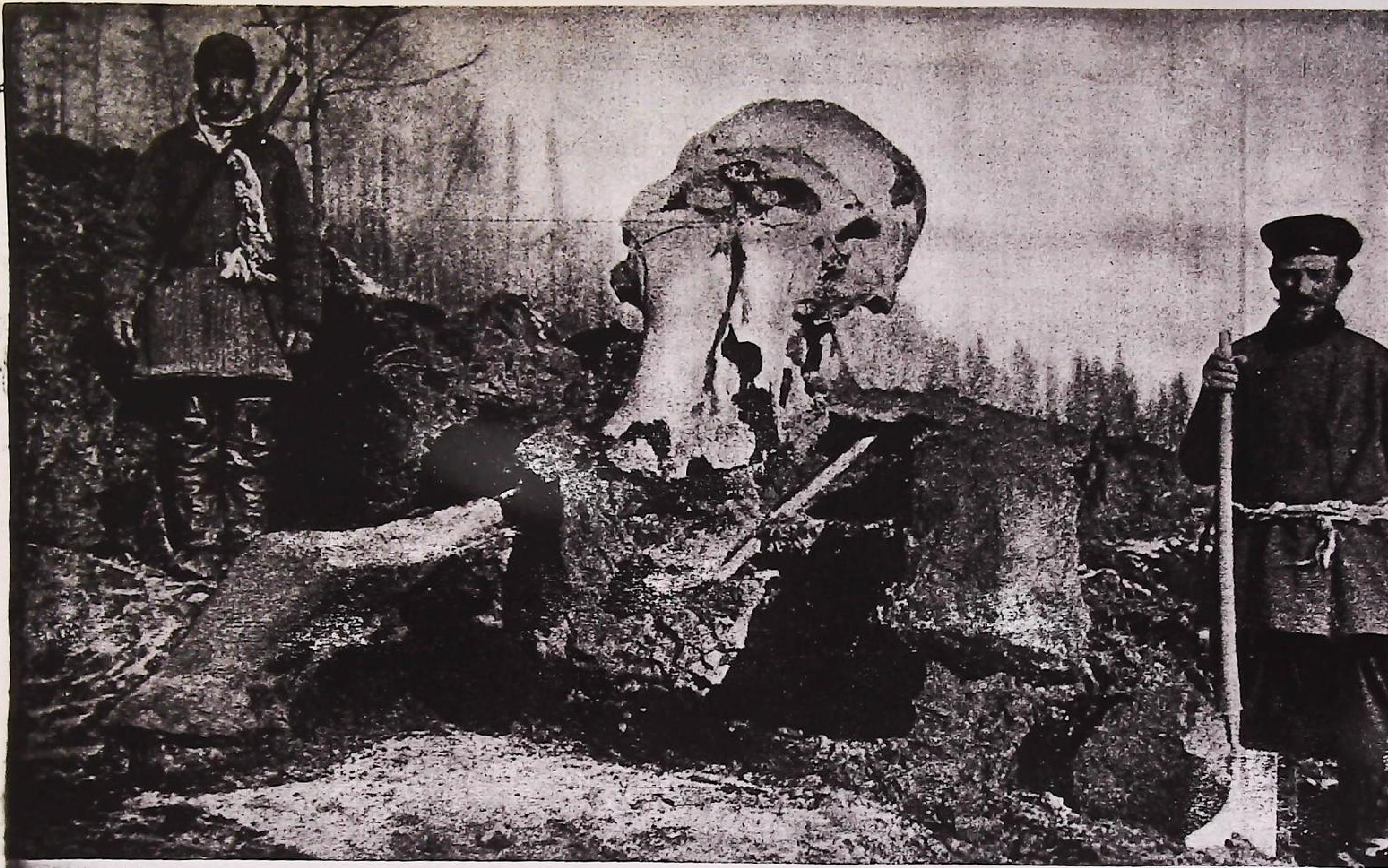
Earth, as we know it, is a substance of varying specific content, but pretty universal composition. It consists of lots of little particles of various minerals in crystalline form—sand, dust or rock, if you like—small pieces of vegetable and animal matter states as imperm[illegible] in cold places, such as six feet below the surface in Northern Siberia and Alaska, ice is the natural form and water the exception.

These places, moreover, have been cold for an unconscionable length of time—in fact, at least since the last ice age, and probably since long before that. Thus, earth or ice that was frozen hundreds of thousands of years ago remains unchanged until thawed and washed away. Moreover, if layers, banks or drifts of snow persisted through the summer in exceptionally cold years, they became compressed into ice. Similarly, floods sometimes became frozen. Both might be covered with layers of silt during subsequent floods, which, in turn, froze and sealed them below. This process happens today and presumably has been going on for tens of thousands of years, so that the frozen land of the Arctic is like a great layer cake—strata of frozen earth and of ancient ice alternating with one another, and both acting as a rock. This mass varies in thickness from a few to over 1300 feet. It never thaws below six feet, where the temperature is perpetually at, or lower than, the freezing point.

Once the nature of the frozen lands was appreciated, many startling and, at first, scarcely credible things came to light. Despite hopeful search, it soon became manifest that mammoths were no longer to be encountered alive in the Arctic. That they were elephants related to the Indian species, but vaster and clothed in long shaggy coats, was, however, proved by the inspection of the remains of no fewer than thirty-four authenticated cases of specimens with flesh still adhering to the bones.

The most famous of these discoveries was made in 1900 on the Beresovka River, which is a tributary of the Kolyma, one of the great rivers of Northeastern Siberia. The discoverer, a nomad tribesman, cut out the tusks and sold them to a Cossack trader at Yakutsk. The latter reported the find to the local police chief. There is a Russian law that all such finds belong to the state and must be reported to the National Academy of Sciences. In due course, the academy sent a scientific expedition, which reached the site thirteen months later.

The mammoth had thawed out of a steep bank of frozen muck and rolled down an incline. Wolves and other present-day animals had eaten much of the skin and flesh from the head and back, and most of the internal organs were missing, but the rest, when freed of the frozen earth, was found to be in an almost perfect state of preservation. The fat was still white and fresh, and the meat was red and soft when completely thawed. Most of the fur became detached with the surrounding earth, but the limbs



ACADEMY OF NAT. SCIENCES, PHILA.

This huge creature perished in a prehistoric Siberian bog, and was then entombed in ice and frozen earth. But how did he ever get there?

were extricated intact with nails and hair. The tail was perfectly preserved. Other less-perfect specimens have been found, and from these practically every part of the animal's anatomy has now been recovered—eyeballs, ears, trunk, stomach and even the navel.

The Biblical theory that the deluge was the agency by which these animals were killed was in due course demolished by simple logic and modern rationalization, but the question of how they got to Northern

up anywhere in Asia south of Siberia, though they did so in Western Europe. The second theory took longer to die, but finally succumbed before the steady acquisition of knowledge. First it was pointed out that the bones and carcasses were interred in frozen land both below and above strata of rock ice, which clearly demonstrated that the climate was very cold when they died. The obvious fact that the carcasses themselves must have been preserved by freezing before they had time even to lose their fur

through the intense winter cold with the aid of their thick skins, layers of fat, close coat of brown underwool, and long covering of black shaggy hair. Then there was evidence that they still rested where they had died, for some of them were still standing upright.

At the same time, they had become extinct long ago, because the local natives had no traditional knowledge of their true nature. This posed the question: When did they live and how long had

This huge creature perished in a prehistoric Siberian bog, and was then entombed in ice and frozen earth. But how did he ever get there?

ACADEMY OF NAT. SCIENCES, PHILA.

were extricated intact with nails and hair. The tail was perfectly preserved. Other less-perfect specimens have been found, and from these practically every part of the animal's anatomy has now been recovered—eyeballs, ears, trunk, stomach and even the navel.

The Biblical theory that the deluge was the agency by which these animals were killed was in due course demolished by simple logic and modern rationalization, but the question of how they got to Northern Siberia still remained.

A variety of explanations was put forward. The two most notable theories were: (a) that the carcasses had been washed down by the great Siberian rivers from warmer lands in South Central Asia, and (b) that the climate of Siberia itself had previously been mild. Neither of these remained tenable for long. The first was dubious in any case, and was soon abandoned, because mammoth remains never turned up anywhere in Asia south of Siberia, though they did so in Western Europe. The second theory took longer to die, but finally succumbed before the steady acquisition of knowledge. First it was pointed out that the bones and carcasses were interred in frozen land both below and above strata of rock ice, which clearly demonstrated that the climate was very cold when they died. The obvious fact that the carcasses themselves must have been preserved by freezing before they had time even to lose their fur seems to have escaped the earlier theorists. Then contemporary vegetable remains unearthed with the mammoths were examined, and found to be those of typical tundra plants that still exist in Northern Siberia today. Last, examples of this very flora were actually found in the frozen stomachs and between the teeth of the mammoths themselves.

Thus it became apparent that the mammoths had been truly circumpolar creatures that could live through the intense winter cold with the aid of their thick skins, layers of fat, close coat of brown underwool, and long covering of black shaggy hair. Then there was evidence that they still rested where they had died, for some of them were still standing upright.

At the same time, they had become extinct long ago, because the local natives had no traditional knowledge of their true nature. This posed the question: When did they live and how long had their corpses lain in the frozen lands?

Then, slowly, the amazing truth began to emerge. Here we were looking at creatures sometimes almost entirely clothed in their flesh and blood, that had lived and died tens of thousands, perhaps hundreds of thousands of years ago, and which Nature had preserved for us virtually intact from the last ice age. The piecing together of the story has many extraordinary sidelights.

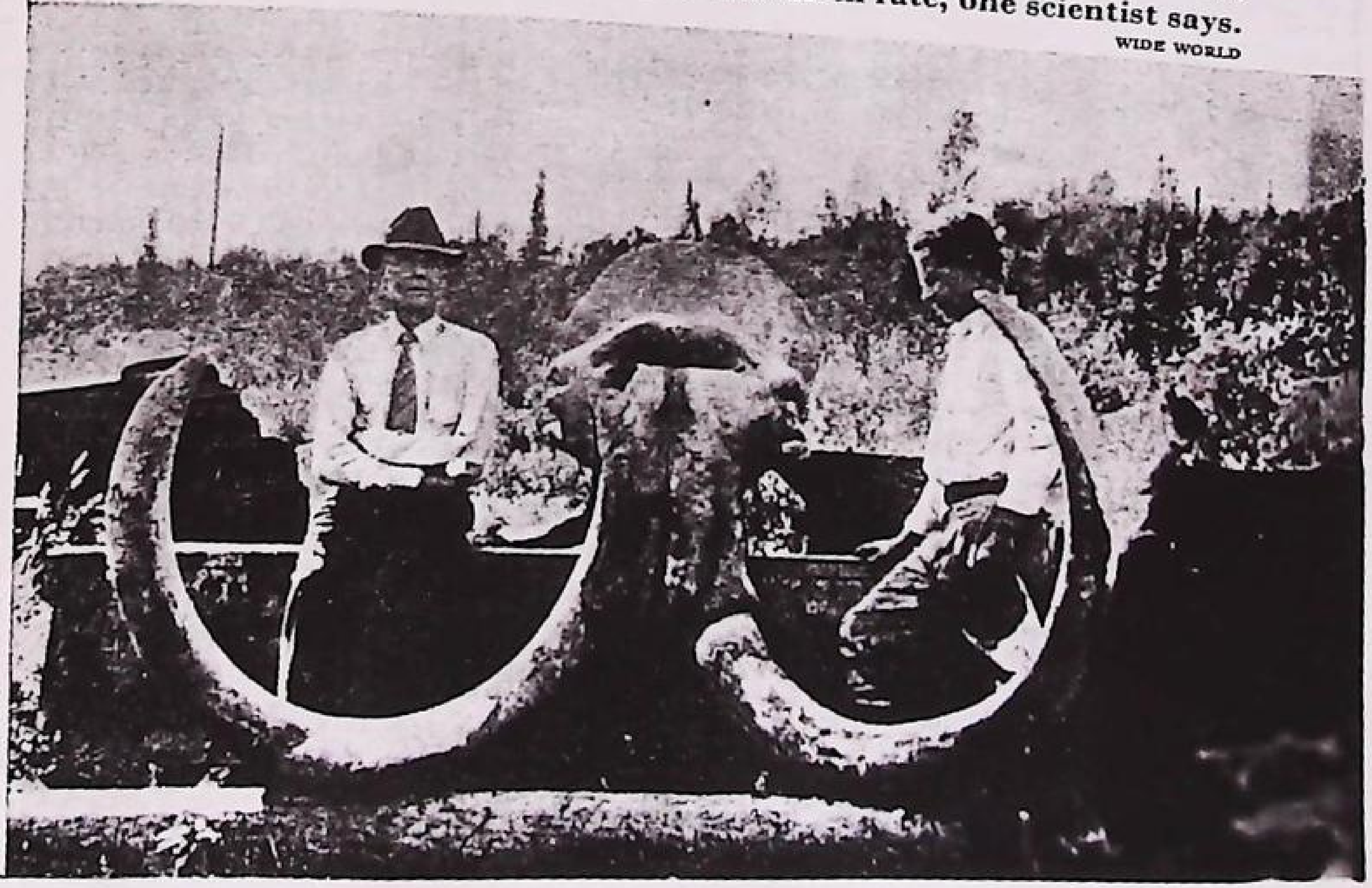
(Continued on Page 142)

Siberian tundras have always been a prime source of prehistoric bones. The best is yet to come, for Russia has big reclamation plans for this area.

SOVFOTO

Mammoth tusks. Why did his kind die out after the ice age, while the elk, the Siberian tiger and the bear lived on? Low birth rate, one scientist says.

WIDE WORLD



:eptance
Unlimited...

'illed is a brilliant and useful part of your
ıs, pencils and eyeglass frames, the metal
practically always Gold Filled. For Gold
asing natural yellow, has both beauty and
It has earned unmatched acceptance
l everyday use. This acceptance for its
ıs well as beauty is just one more reason
l Filled jewelry is so popular today.

'old illed

THE RIDDLE OF THE MAMMOTHS

(Continued from Page 27)

First there is the purely geological evidence, into which we shall not attempt to delve, because of the volumes of detail. Suffice it to say that there is evidence, and of a very good and varied nature, to show that the rock ice and the frozen muck of Siberia, Alaska and elsewhere in the Arctic in many cases actually remain over from the period of the last and possibly even of the one-before-last ice age, which are estimated to have taken place 25,000 and 100,000 years ago respectively. These ice ages occurred during what is known as the Pleistocene Period, which lasted for 400,000 years and ended at least 15,000 years ago. Other evidence came from a most unexpected source—our own ancestors.

With the growth of modern scientific inquiry, a great deal of research was devoted to the prehistory of man, which extended back in time to an incredible distance. The fossilized remains of distinctly apelike races of men were unearthed from the earliest strata of the Pleistocene Period—strata that were laid down before the ice age. Stone implements from the same age and from succeeding horizons to the dawn of the historic period were gathered and classified. Many of these were found in the earth of cave floors associated with ancient hearths and the bones of animals. Many of these bones proved to be those of now-extinct animals, among them the mammoth. Then wonderful and beautifully executed paintings were found in caves in Belgium, France and Spain, and among the things therein depicted were the animals whose bones were found by the ancient hearths buried in the cave floors. Here were many mammoths faithfully executed with curling tusks and long shaggy coats.

It was thus obvious that man was contemporary with the mammoth, but that the particular men concerned lived many thousands of years ago and were at a very low and primitive stage of cultural development. Moreover, as these Paleolithic, or Old-Stone-Age culture, men died out and were replaced by the more advanced and more recent races of the New Stone Age, who fashioned quite different kinds of tools, the mammoths and the other strange creatures just faded away. From the close of Pleistocene times and after the final retreat of the glacial ice caps, the bones of these creatures are found no more.

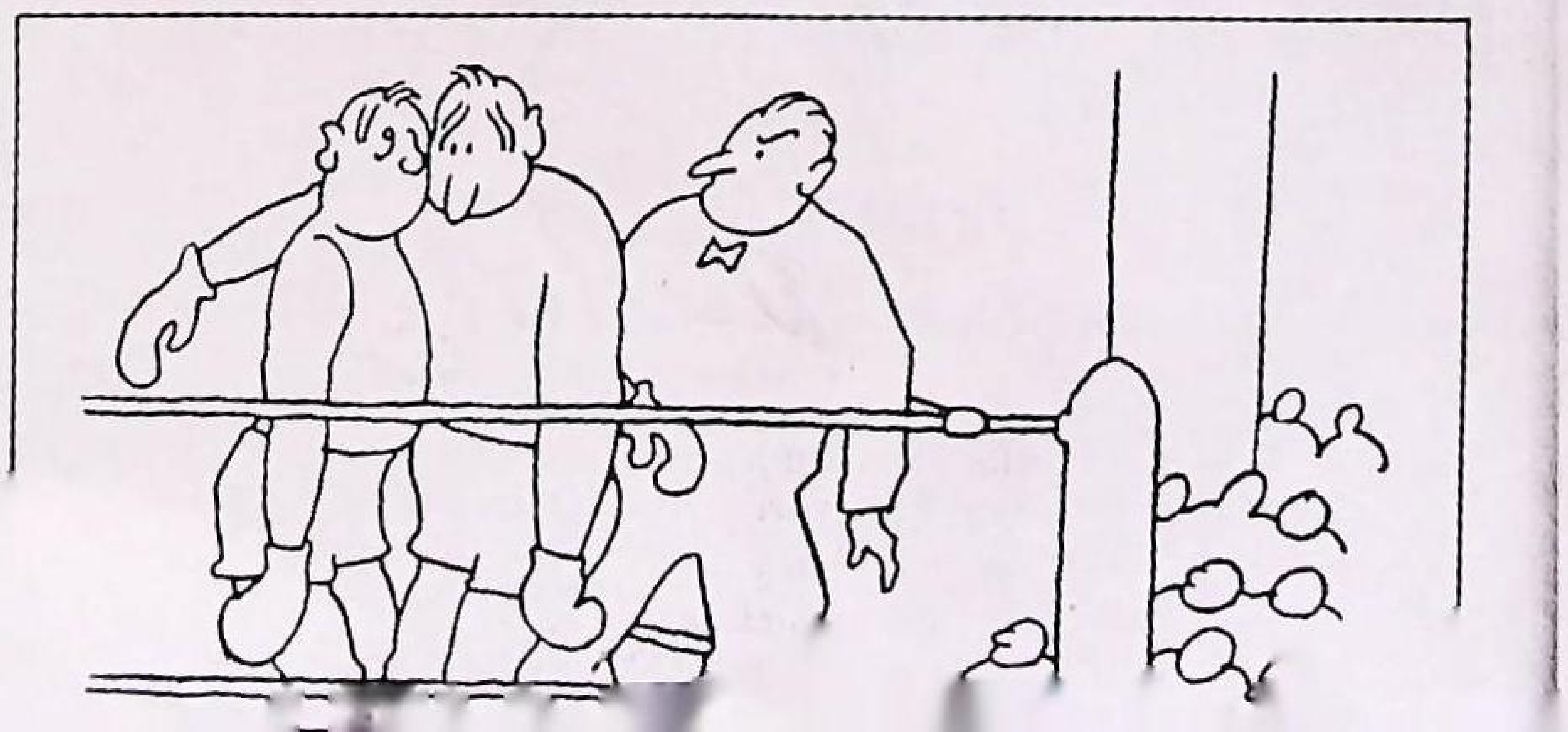
From evidence gained through the study of the cave paintings and from the excavation of skeletons and tusks over a wide area, a considerable amount is now known about the original range of the mammoth. It was once to be found from the British Isles, throughout Europe—except in Scandinavia and south of the Pyrenees—Russia and Siberia to Alaska and thence all across Canada and down into what is now the Northern United States. It was probably very rare or even nonexistent in Scandinavia because of the great ice cap that covered that peninsula, but it was particularly common on the North Siberian plains because they were never permanently glaciated. Moreover, the North Siberian mammoth proves to be a distinct race derived from the more Southern European form.

The mammoth as a race first became extinct in Western Europe and Central North America, and then retrogressively disappeared into its last retreat on the tundra of Northeastern Siberia. Why, then, one may ask, could it not have lingered on, unknown to man, in these remote and sparsely populated regions until quite recent times?

There are two facts that argue strongly against this assumption. The first is that the local inhabitants, who always have been nomads and who cover the Siberian tundras pretty thoroughly in the course of a generation, have not even the vaguest folk tales of the mammoth in its true life form. This pushes the death of the last mammoth back a long time. The second argument, although perhaps less obvious at first, is much more potent. This concerns the other animals whose remains are found in association with the mammoth.

People often ask why it is that the mammoth alone appears to have been

(Continued on Page 144)



Make SURE of better CHRISTMAS PICTURES!

Get the New
G-E EXPOSURE METER

Helps you get MORE from your camera . . . rich color, precious detail . . . with correct exposure. Easy to use. And the new G-E meter is lighter, sturdier, with new easy-to-read dials. Also, an ideal gift for the camera fan. *It's 3 meters in one!* Get the G-E meter at your photo dealer's. General Electric, Schenectady 5, N. Y.

TYPE DW-58 $26.95 Federal tax included

GENERAL ELECTRIC 606-184D-6336
LIGHT
LIGHT VALUES
GENERAL ELECTRIC

LISTEN . . .
can YOU

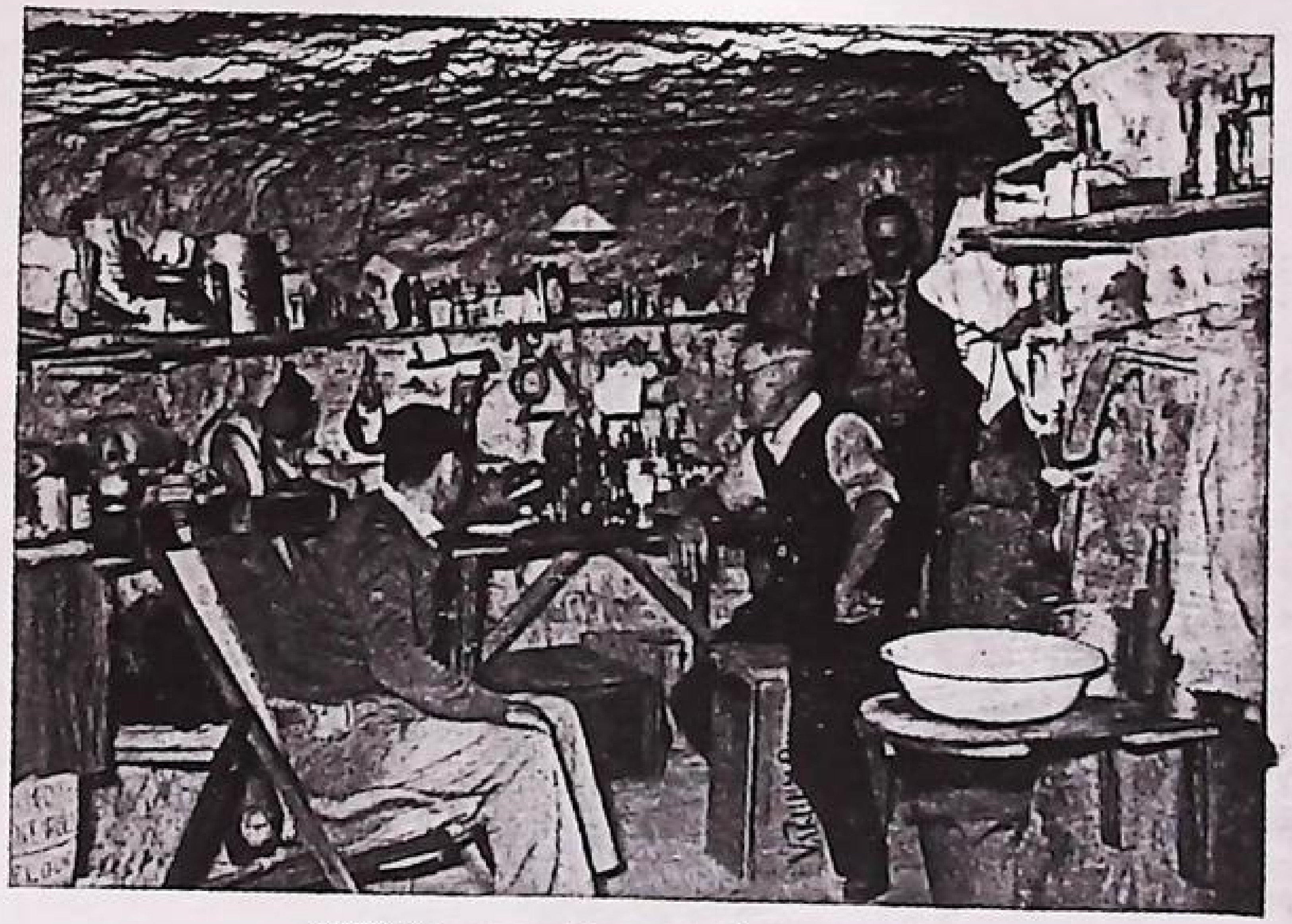
(Continued from Page 142)

frozen in nature's giant icebox. The simple fact is that they are not by any means the only animals whose remains are found in the frozen lands. Even in Northern Siberia they may not be the commonest creatures so preserved, for quite a host of other animals' remains have come to light. There are horses related to the present-day wild species of Asia, and a giant ox; there are woolly rhinoceroses, a kind of tiger and several animals that still exist today, such as the musk ox and the reindeer. In Alaskan frozen lands, the remains of mammoth are less frequently found than those of giant bison, and with these have been found the skulls of a fairly ordinary-looking lion such as is now a denizen of Africa, an extinct type of musk ox, a horse, an elk, a bear, a vanished giant wolf, beaver and even a little ground squirrel stiffly frozen in its nest. Of this assemblage, the majority of species have now vanished as completely as the mammoth.

It is not possible to say whether these animals died out at exactly the same time as the mammoth. In fact, it is not even absolutely certain that all of them were contemporaneous, for there is, as yet, no sure key to the succession of strata in the frozen lands. Many of the loose bones found there were washed out of their original places of burial thousands of years ago and redeposited in more recent accumulations of muck. Thus there is considerable uncertainty about the saber-toothed tiger, which, from other evidence, seems to be of more ancient vintage. There is no doubt about the great woolly rhinoceros and the giant aurochs, or oxen, but the cave bears and cave hyenas which are found with the

(Continued on Page 147)

Maybe They Will Strike it Rich



"White man lives underground."

THEY seldom strike it rich at Coober Pedy, an Australian opal field so remote that the nearest supply point is 170 miles away, so desolate that the miners must

They have to buy their water, at about a dollar per 100 gallons. Only one railroad train a week stops near the opal field, bringing mail and

(*Continued from Page 144*)

mammoth in the caves of Europe do not appear in Siberia.

Although elephant remains have been found in Ireland, it is unclear whether they belong to the same age as those of the fabulous giant elk, whose gigantic antlers with an eight-foot spread are found in the depth of the peat bogs. But one thing is clear—these animals were known to early man, for not only has he left drawings of many of them for us to see but he carved pictures on their bones, left his stone spearheads in their skulls and sometimes stacked their bones in great hordes by his caves.

As regards the disappearance of the mammoth, several theories have been put forward. One contends that man was the principal agent in its extermination, but devastating arguments have been advanced against this by one I. P. Tolmachoff, who is a recognized expert. His explanation is most unromantic and prosaic. He contends that the mammoth and the other animals of the Pleistocene Period that have gone, died out simply because they had become too specialized and, despite abundant food, racial good health and comparative immunity from enemies and environmental dangers, could not breed fast enough to keep up with their natural death rate—indeed a dull end for these magnificent creatures.

There has also been a great deal of discussion as to how the individuals that we now find frozen met their death and how they became preserved. It was originally assumed that they had simply been frozen stiff where they stood—altogether, all over Siberia, all at once—in some frightful cataclysm. This theory gave way to the conjecture that they fell into ice crevasses or deep snowdrifts, but no single example has ever been found in rock ice or any other kind of ice. They are always in frozen earth. It was then supposed that they fell into crevasses which were later filled with mud and silt, but this raised doubts as to the means by which they became solidly frozen through before they decomposed. Here again, however, the perspicacious and ingenious Mr. Tolmachoff comes to the rescue with a couple of extremely bright, logical and quite feasible ideas, for he knows his tundra.

He observed that the thawing mud or clay from Arctic gulches is often so sticky that a few inches are enough to hold a man fast, so that he cannot move, and he points out that a patch a few feet in depth would hold a mammoth.

This would account for the specimens found still placidly standing upright, for the mud spewing from the gulch would pile up against the beast both before and after it died, partly or wholly enveloping it. Then, as soon as the brief northern daylight failed, the bitter cold of the practically germ-free night air gripped the carcass and its enveloping muck, and nature's slow freeze began. If this happened toward the end of the short Arctic summer, each day would bring more mud and each night more freeze, and soon would come the snow to cover the corpse and complete the process. On the other hand, those carcasses found lying on their sides, he suggested, were drowned in floods and became anchored in the bottom, or ground ice of the rivers, as corpses of men and beasts often are today in the great Siberian rivers. These were subsequently covered with silt which was frozen solid, after which the river changed its course, as still frequently occurs.

Between 1927 and 1929, Russian anthropologists opened prehistoric mounds at Chibé on the Oursoul River and Pazyryk on the Yan-Oulagan River in the Altai Mountains of Southern Siberia. These mounds are estimated to be only about 2000 years old, but they contained perfectly and completely preserved horses and human beings. The mounds contained vaults in which were complicated cagelike structures and a wealth of artifacts. The horses and men in some of them were frozen solid, having been buried just before a sharp freeze which preserved them before the tombs were sealed and buried. Once covered, the short summer thaws never reached them and they remained there intact until today.

If horses and men can stand intact in icy perfection for 2000 years, why should they not do so for 20,000? If a mammoth and a ground squirrel can do so for this length of time or more in the frozen Arctic muck, why not man? Man was contemporary with the mammoth in Europe, and it now appears that he lived with these creatures in Siberia also. Man obviously hunted the mammoth in Europe and possibly caught him in pitfalls, so he probably did the same in Siberia, and, therefore, there is no reason why he should not one day be found in the death pit with his quarry. If the mammoth and reindeer and beaver stuck in the glutinous tundra mud, we are perhaps justified in hoping that an unfortunate huntsman may also have done so. The Arctic icebox is virtually untouched and is still full of treasures. What may not yet be found?

The exploration and colonization of Siberia are going on apace, and the Soviet Government has announced a great development scheme for these frozen lands. The Arctic muck is to be put to use for the cultivation of special crops. There have been futuristic suggestions about the use of power from atomic fission in connection with the unlocking of the frozen Arctic—fabulous daydreams if you will, but, nevertheless, indications that point the way to only one outcome—a more intense exploration of the world's greatest museum of natural history. What can be done may be seen in Alaska, where gold-mining companies have stripped away vast areas of frozen land with high-pressure hoses, dredges and a network of pipes through which the flow of cold water is enough to thaw the congealed mass.

This won't immediately relieve the world food shortage and may not contribute materially to our peace of mind, but it will certainly add immeasurably to our knowledge of the far distant past.

THE END

Delicious . . . with Genuine
NEW ENGLAND FLAVOR
Mealy, tender, wonderfully better flavored. Actually baked (not steamed) with pork and spicy sauces, *all day long* . . . "Down East" in Portland, Maine. Burnham & Morrill Company.

B&M
Genuine
New England Brick-Oven
BAKED BEANS
Baked in Open Pots

MOJUD
A gift of sheer delight

THE CHISHOLM TRAIL

against a lower lip to stifle a groan at

Yes, Matthew had gone to the wars.

MAGAZINE: THE SATURDAY EVENING POST
DATE: 7 DECEMBER 1946, VOL. 219, #23
THIS IS PAGE: 2

Keep your car clean and free of winter slush and dirt. SIMONIZ not only protects the finish from damage, but makes it easy to keep your car clean and sparkling in any weather without washing. Just use a dry cloth to wipe off dust and dirt.

The Sooner Any Car Is SIMONIZED, the Longer the Finish Lasts

New or old, every car needs SIMONIZ to keep it looking glamorously beautiful! SIMONIZ protects the finish against harm by corrosive airborne chemicals, gritty mud, ultra violet rays. It not only keeps your car looking new longer . . . saves you a lot of work, too. Washing is seldom necessary. A dry cloth wipes off dust and dirt without scratching . . . and the finish is bright as ever! If your car is already dull, Simoniz Kleener restores the sparkle of newness. Then apply SIMONIZ for lifelong beauty. As millions of motorists know, nothing takes the place of SIMONIZ and Simoniz Kleener (liquid and paste). Ask for and insist on them. Be sure to SIMONIZ your car right away

THE SIMONIZ COMPANY, CHICAGO 16, ILLINOIS
Recognized for over thirty years as authorities on the preservation of fine finishes

MOTORISTS WISE
SIMONIZ
HOUSEWIVES DO LIKEWISE
Guaranteed by Good Housekeeping
Liquid
SIMONIZ KLEENER
SIMONIZ KLEENER
SIMONIZ
"SIMONIZ" . . . T. M. REG. U. S. PAT. OFF. & FOREIGN COUNTRIES

Sold by grocery, hardware, variety, drug, paint, 5c to $1, auto accessory, and department stores everywhere.

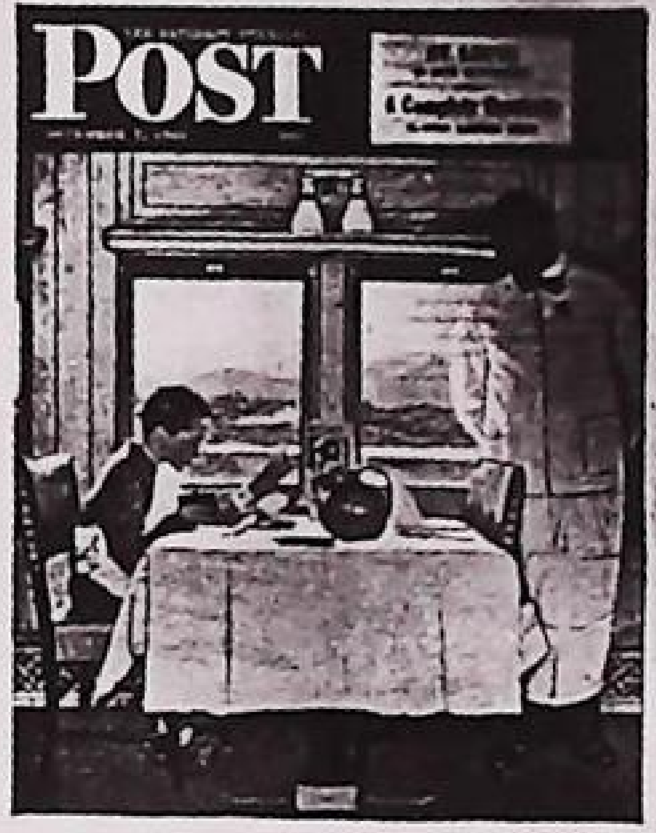
2 SERIALS

The Chisholm Trail (First part of six) . . . . [illegible] 9
Bright Was the Sword (Fifth part of six) . . . . [illegible]

OTHER FEATURES

Keeping Posted 4
Report to the Editors . . 6
Post Scripts . . . . [illegible]
Editorials . . . . . [illegible]
Poetry . . . . 38, 94, 152, [illegible]

THIS WEEK'S COVER



WHEN Norman Rockwell paints a common predicament, about all that remains to be told is the identity of the players. In the role of the young man who didn't expect the bill would be quite this much is Peter Rockwell, the artist's youngest son. In the role of the dining-car waiter is a man who was able to handle this part without much difficulty. He is Jefferson Smith, and he has worked in dining cars of the New York Central for twenty-eight years. The dining car is courtesy the New York Central. Rockwell first tried painting a diner of the 20th Century Limited, set off at Albany for his use, but had to ask for another to get the colors he wanted. The dining car which met art's own special requirements as well as the passengers' is from the Lake Shore Limited.

The names of characters used in all Post fiction and semi-fiction articles are fictitious. Any resemblance to a living person is a coincidence.

The Saturday Evening Post, copyrighted 1946 by The Curtis Publishing Company in U. S. and Great Britain. All rights reserved. Title registered in U. S. Patent Office and foreign countries.

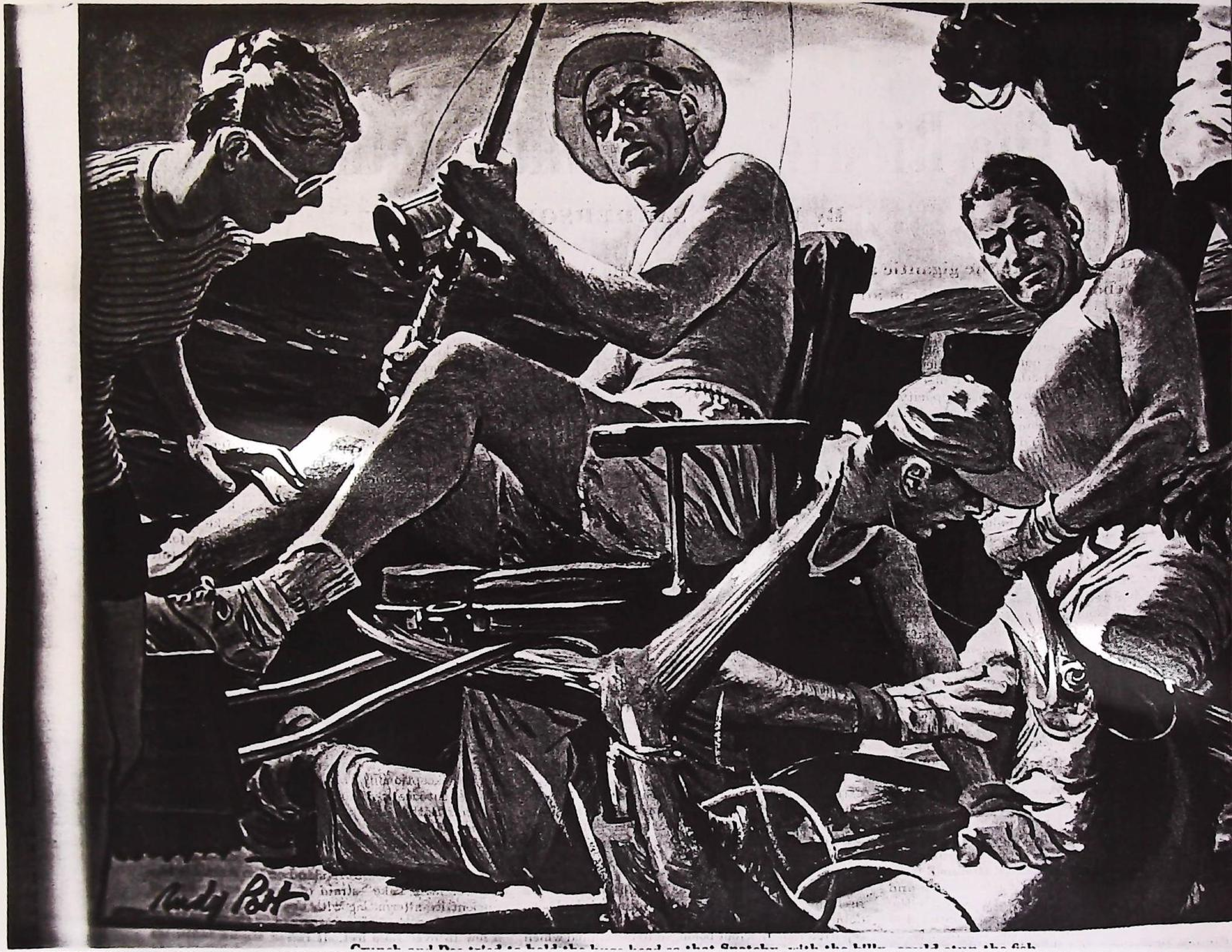
Published weekly by The Curtis Publishing Company, Independence Square, Philadelphia, Pa. Entered as Second Class Matter, November 18, 1879, at the Post Office at Philadelphia under the Act of March 3, 1879. Entered as Second Class Matter at the Post Office Department, Ottawa, Canada, by Curtis Distributing Company, Ltd., Toronto, Ont., Canada.

Subscription Prices: U. S. and Possessions, Canada, Newfoundland and Labrador, Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Mexico, Nicaragua, Panama, Republic of Honduras, Salvador, Spain and South America except the Guianas, 1 Yr., $5; 2 Yrs., $7.50; 3 Yrs., $10; 4 Yrs., $12. Other Countries, 1 year, $9. Remit by Money Order or Draft on a bank in the U. S. payable in U. S. Funds. All prices subject to change without notice. All subscriptions must be paid for in advance.

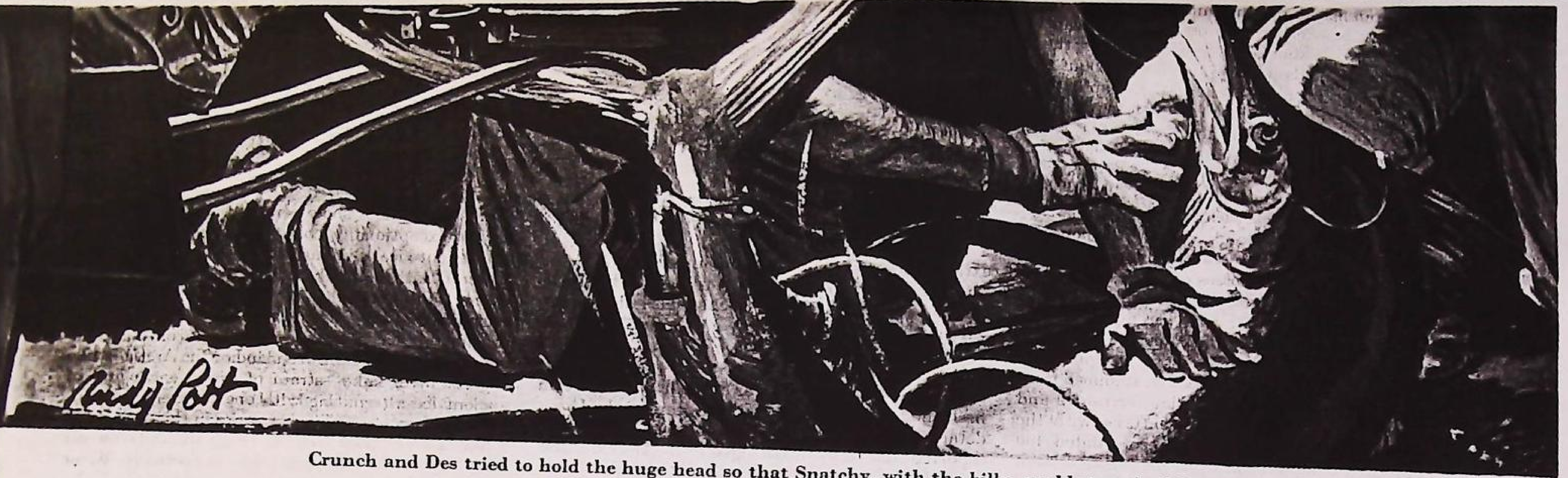
Unconditional Guaranty. We agree, upon request direct from subscribers to the Philadelphia office, to refund the full amount paid for any copies of Curtis publications not previously mailed.

The Curtis Publishing Company, Walter D. Fuller, President; Fred A. Healy, Vice-President and Advertising Director; Mary Curtis Zimbalist, Vice-President; Cary W. Bok, Vice-President and Treasurer; Lewis W. Trayser, Vice-President and Director of Manufacturing; Benjamin Allen, Vice-President and Director of Circulation; Robert E. MacNeal, Secretary; Arthur W. Kohler, Manager of The Saturday Evening Post. The Company also publishes Ladies' Home Journal, Country Gentleman, Jack and Jill, and Holiday.

CHANGE OF ADDRESS
Send change of address (naming magazine) to
THE CURTIS PUBLISHING COMPANY, Independence Square, Phila. 5, Penna.
at least 30 days before the date of the issue with which it is to take effect. Send old address with the new, enclosing if possible your address label. The Post Office will not forward copies unless you provide extra postage. Duplicate copies cannot be sent.



Crunch and Des tried to hold the huge head so that Snatchy, with the billy, could stun the fish



Crunch and Des tried to hold the huge head so that Snatchy, with the billy, could stun the fish.

Eve and the Sea Serpent

By PHILIP WYLIE

It was an appalling monster that rose out of the sea near the Poseidon—so awful that even Crunch and Des were terrified. But the person most profoundly affected was the domineering Mrs. Weatherbie.

THE feeling came when Crunch steered the Poseidon around the last sand bar outside Bimini harbor—a new bar, he noticed, and his inner mind carefully mapped its position. It was a swell if complex feeling. The excitement of many past events entered into it, along with anticipation and present enjoyment. For the Bahaman island of Bimini is, after all, paradise to the charter-boatman. To be there again after the war, to find nothing changed, with the exception of a sand bar, and to have in prospect not just one but a solid succession of Bimini charters —— Crunch began to sing the island song: "Sweet Bimini, down in Bimini, the first thing you do, you put your line in the sea ——"

Below, Des, who was doing exactly that, heard the skipper's voice over the engines and grinned as he tested the bonefish bait. Very faintly, he joined in the next line, "The next thing you do, you catch a marlin, by gee!"

Crunch saw his mate's lips move, and it added to his pleasure: Des singing was like bluebirds in January.

Actually, it was January, but January in Bimini is as June in most places. The sun was hot. The blue water was up to its famed standard. No one has ever entered or left Bimini without observing the electric pageant at the harbor mouth, where the Gulf Stream runs over white sand—turquoise and azure and cobalt—colors which explode the theory that blue and sorrow are related.

Check, Crunch thought. Double and triple. Everything wonderful. If he had troubles, they were relatively little ones. Two in number. It was going to be tough to be away from Sari so much of the winter, but they needed the big Bimini pay. The Adamses had exhausted their savings during the war. Millions had fattened their accounts, but other millions—forgotten in the fiscal statistics—had made large personal payments on democracy and freedom. If he would miss Sari, the lonesomeness would be for her and for young Bill. His other trouble was vague.

His customers—now taking their places in the two side chairs—were strangers to Crunch: Mr. and Mrs. David Weatherbie. Mr. Taylor had sent them—as he had sent so many—but his letter of introduction had not been very explicit: "Dave Weatherbie is a scientist—you've seen his name in the papers—and his wife comes from Salem, where her old man owns a string of shoe factories. Nice folks, important folks with three wonderful kids, but they've been fretting each other lately. You probably know

(Continued on Page 50)

ILLUSTRATED BY RUDOLPH POTT

EVE AND THE SEA SERPENT

(Continued from Page 25)

why. A vacation together ought to be good for them."

Crunch thought that over. He hadn't seen David Weatherbie's name in the news. He had no idea why they were fretting. But he could read between the lines of the letter from his old friend and customer. Between the lines, Mr. Taylor had said: "I like these folks and they're having trouble, so do your best to give them a fine trip. A helpful trip."

The Weatherbies were tall people. Tall and spare and early-thirty. Never fished in salt water before. Dave Weatherbie hadn't said much when they'd planed into Bimini the night before, and he'd said almost nothing when they had come aboard the boat that morning; just listened with twinkling interest to the instructions and the sea talk of the skipper. Mrs. Evangeline Weatherbie was blond and beautiful; even Desperate's reluctant eyes had glimmered when the plane had come in. The Diana kind of girl. The sort full of camaraderie. A tennis player, no doubt; a golfer, surely; and probably a swimmer and diver. The variety of person who made friends easily—at least, among men.

Crunch watched them settle in their chairs, stretch out comfortably and nod as Des bent over each in turn to explain what to do if a big fish hit. Mrs. Weatherbie—she had immediately asked them to call her "Eve" and to call her husband "Dave"—followed instructions alertly. She held the rod firmly. Her blue gaze fastened on the bonefish which splashed astern, her handsome nose pointed like a hound's, and she kept her lips apart as if to be completely prepared to cry out at the sight of a bill in the sea, swirl or a splash. Snatchy, the native boy who hunched on the canopy as professional bait watcher, viewed Mrs. Weatherbie with approval and turned his eyes more steadily upon the other bait. For Mr. Weatherbie had seemingly used up his ability to concentrate in the first ten minutes; his eyes strayed to a circling man-of-war, and it was not certain, even, that he saw the bird.

The Poseidon now ran parallel with the island—with beach, coral ridge, palms, lawns, elegant homes of Americans, native churches, and the intermingled small, pastel houses of those of the eight hundred subjects of His Majesty who were lucky enough to dwell on the high spine of the possession. Time passed. They would troll in this classical fashion for an hour, a day, a week, until some brash barracuda hit and ruined the bonefish or until, providence permitting —— Crunch relaxed into the dream of fishing off Bimini.

A moment later Snatchy whirled. "I saw a shadow, Crunch!"

"Which bait?"

Snatchy pointed to Mr. Weatherbie's bonefish. Crunch saw it now—a barely identifiable, dark, gliding motion beneath the waves. He tapped on the canopy with his foot. Des looked up, caught the signal, turned and quietly stepped toward Mr. Weatherbie's chair. That gentleman's absent eye had apparently a zone of attention outside its focus. For now he straightened, glanced beneath his bait and looked sharply around. He nodded when he saw the mate at his side.

"I thought so," he said. "Something." Then, remembering instructions to which he had apparently paid only vague attention, he moved to the fighting chair. Des brought the rod from its rest on the gunwale.

"Nothing has hit it, dear," Eve said pleasantly.

"We thought we saw something."

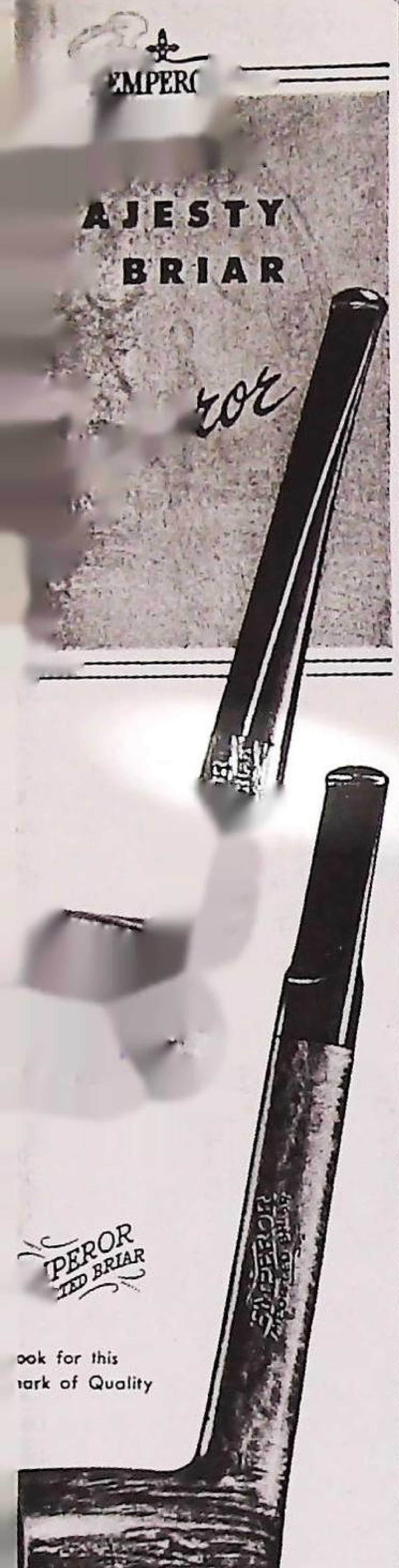
She took her attention from her bait and looked at his. "I don't see a thing, dear."

Then she did . . . because everybody did. The marlin rose alongside the bait, wheeled and struck crossways. Its bill barely broke water. But the outrigger line was yanked from its clothespin. For another second the fish was visible, vast and gleaming and metallic, like a torpedo that had missed the mark and was passing astern.

Up topside, Snatchy looked with his prewar reverence at a skipper who could raise a marlin in his first hour of trolling. Crunch, who in his lifetime had witnessed the failure in practice of every known and imaginable superstition, nevertheless felt that this early appearance of a big fish was a good omen for the trip and the trips to come.

"Brace your feet!" he shouted.

Mr. Weatherbie braced them. The line tightened. His eyes were almost horrified as he slung his long back into



ook for this
ıark of Quality

Rsymmetry, for rugged strength,
r rare beauty of costly imported
here is true perfection.

Emperor is a masterpiece cre-
in the custom tradition. It is
ıed of the world's choicest
—hand-fitted with mouthpiece
ditional design—equipped with
ıble aluminum cleaner to suit

DOXA
Preferred by Millions
Since 1

GIVE A DOXA and you give a watch of distinctive beauty and rare elegance... a watch that for over a half century has proved to be lastingly accurate.
At Better Jewelers

DOXA WATCH AGENCY, INC., 580 5 AVE., N.

Overworked E

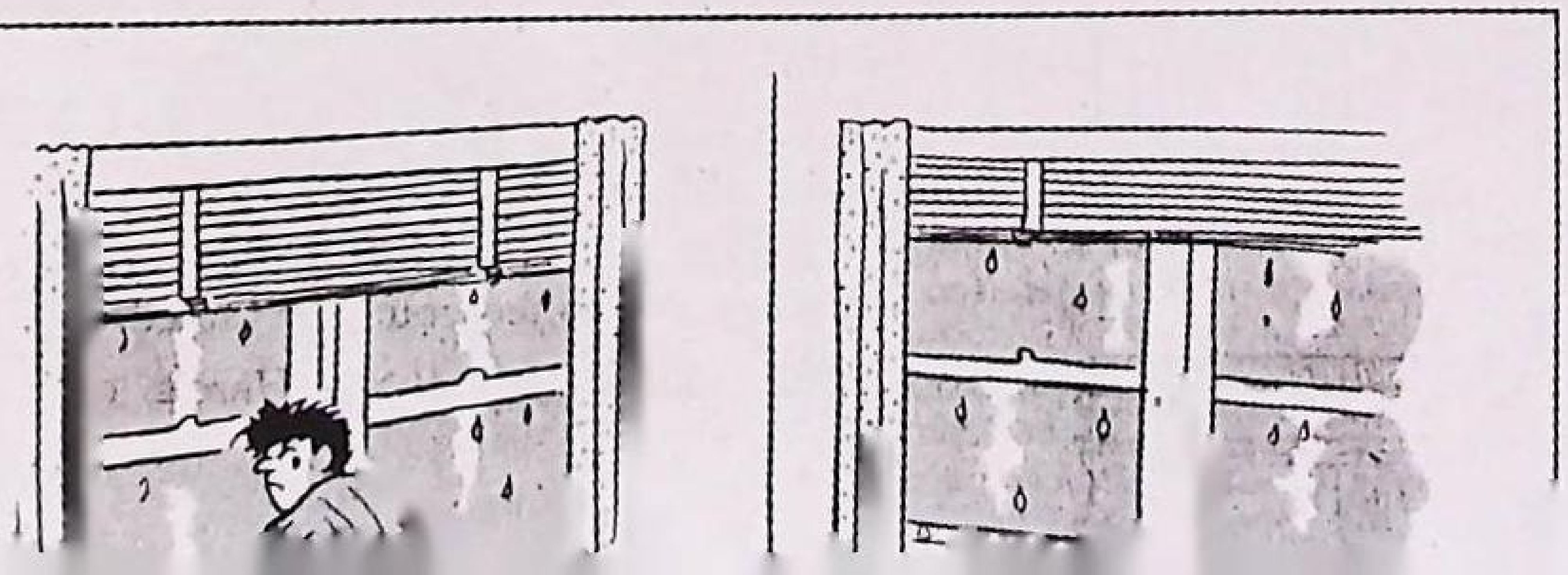
When eyes burn and smart due t
driving, exposure to dust or wind,
with Lavoptik. Soreness, tired fee
from local irritations all relieved o
funded. 30 years success. Thous
it. Get Lavoptik today. At all dru

SEE WHY TH
DEA
ARE OVERJOYED WIT

NEW
Beltone
ONE-UNIT
HEARING AID
THIS IS ALL YOU WEAR

Thousands find real
hearing for first time,
with new Beltone
Hearing Aid. About ⅓
size of old style aids.

LIGHTER—THINNE
MORE POWERFU
-thin— Beltone disat



Cardinal
BONDED DIAMOND RINGS

Ring Shown $500

For all your Tomorrows... the brilliant loveliness of a Cardinal Diamond Ring ...its high quality of craftsmanship and value is assured by a *Bond.*

At Your Dealers
$50 to $500

CARDINAL DIAMOND SYNDICATE
St. Louis, Mo. Milwaukee, Wis. Los Angeles, Calif.

AEROPOINT
"The World's Most Imitated Phonograph Needle"
LONG LIFE AND PERMANENT MODELS
NEEDLE CO. 619 N. MICHIGAN AVENUE, CHICAGO 11

QUICK RELIEF FOR

three successive strikes. The reel stammered, groaned, whistled, and the marlin plunged against man and gravitation. It did not quite clear the water, but raced away from the boat with its tail alone submerged, so that it was now a surfacing torpedo. Then it capsized sideways with a tremendous splash which momentarily revealed the threshing propeller of its tail.

Eve Weatherbie had risen. Crunch thought—from the Taylor letter and from her first overpositive advices—she planned to take charge of her husband in the coming battle. He was wrong. She shaded her eyes and stared at the whirlpool where the fish had been.

"Oh, Dave!" she cried, "that was magnificent! I hope you get it!" Then, remembering what she had been told, she beat Snatchy to the gunwale and with a strong sure arm reeled in her bonefish, so that the sea astern was clear for her husband.

For a minute nothing happened. The marlin stood still a few feet under the surface and some hundred and fifty yards from the boat, which now lay dead in the water, but with engines idling attentively. Eve lighted a cigarette and stepped forward to put it in her husband's mouth. He smoked—probably unaware of the fact, and manifestly in the manner of one accustomed to smoking while his hands were occupied.

"Try pulling it toward you," Des suggested.

Dave heaved and the fish moved. He swung forward and wound up the line gained by the heave.

"Keep him coming," Des said.

While skipper, mate and colored assistant watched incredulously, Dave steadily drew the marlin toward the boat. In another few minutes he had it close enough so that everyone could see it, lying side-on, resisting each pull with slow strokes of its tail. The swivel between the line and leader came out of water. The old-timers waited breathlessly for the fish to take fright and begin what would surely be a long and furious combat. They waited in some apprehension, for, if the marlin began to jump so close to the cockpit, it might conceivably jump in. Nothing around the tail. The great fish then stood upright and tried to leap—which was its undoing—for the attempt brought its bill, head and gills up above the side of the Poseidon, and the men, capitalizing on that instant, unbalanced it and crashed it into the cockpit.

Its tail slid under the fighting chair, which was set on a heavy cylinder in a socket; the first swat lifted chair and man a foot. Dave jumped. The second swipe heaved the empty chair much higher; it thumped back into place. Crunch and Des tried to hold the huge head, so that Snatchy, with the billy, could stun the fish. His swings went wide of the vital spot and merely enraged the marlin by striking its back and gill plates.

Des lost his hold. It looked, for a moment, as though Crunch might also be thrown clear—in which case one loose live marlin would start smashing up the stern.

Then Mrs. Weatherbie sat on the tail. It jounced her as if it were a bronco, but it did not throw her. She said afterward that she had realized, by the smacking of the chair, that a hundred and forty-five pounds of woman would calm it. At the time, it seemed an act of remarkable presence of mind, together with considerable foolhardiness. But it was Dave Weatherbie who did the subsequent trembling and sweating.

His wife was nonchalant. "I gauged it," she said, "and I knew I'd be safe sitting on it."

Junius Dabney, one of the Americans who enjoy winter residence in Bimini, inspected the marlin on the pier that afternoon and invited the Weatherbies and Crunch and Des for a swim and dinner on the following day. As a patron of the island, he examined most big fish, but when he heard the story of the taking of this particular specimen he spent more time looking at beautiful Mrs. Weatherbie than he did in weighing and measuring the marlin.

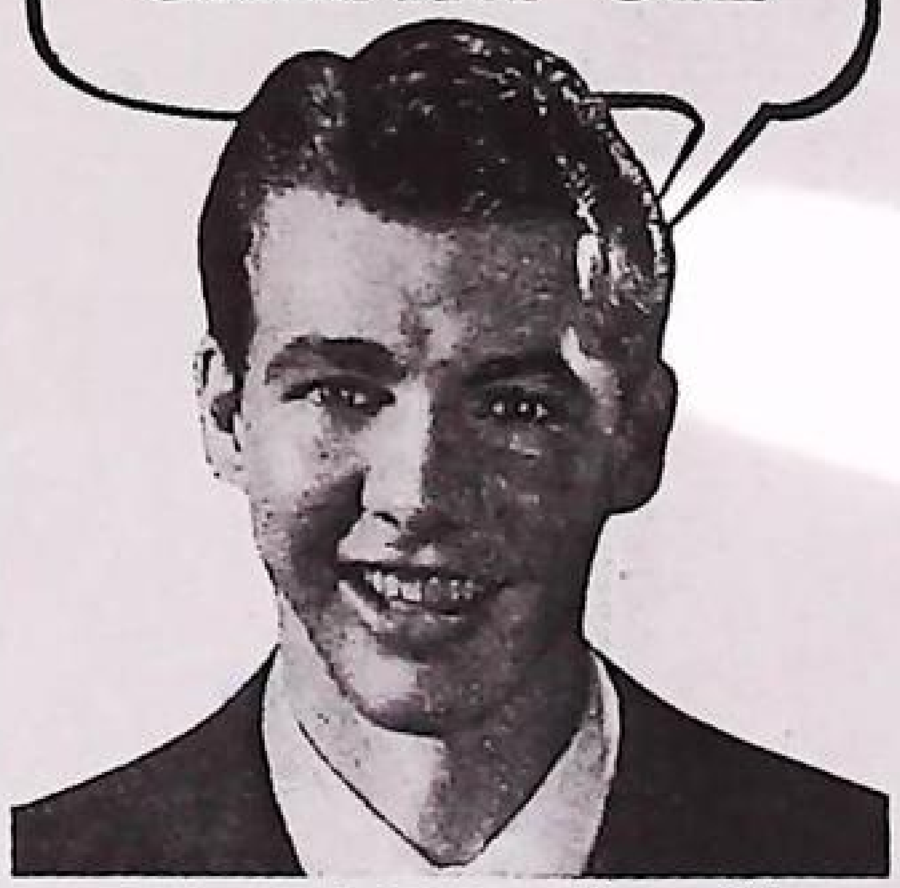
He was a short, fattish gentleman with a bald head, many freckles and a provocative brown eye; his rambling "ranch house," his cactus gardens, his private pier and his boats derived directly from the fact that early in life,

CAN YOUR SCALP PASS THE
*F-N TEST?

*F-N the famous Finger Nail Test

1. It's F-N, the test for men! The "Finger Nail Test!" Scratch your head and see if you find dryness or loose, ugly dandruff. If so, you need new Wildroot Cream-Oil Formula. Relieves dryness, removes loose dandruff! Buy the large size.

YOUR HAIR CAN LOOK LIKE THIS WITH NEW
WILDROOT CREAM-OIL



2. Only a little Wildroot Cream-Oil can do a big job for your hair. Keeps your hair well groomed all day long without a trace of that greasy, plastered down look!

BOND

Ring Shown $500

For all your Tomorrows . . . the brilliant loveliness of a Cardinal Diamond Ring . . . its high quality of craftsmanship and value is assured by a Bond.

At Your Dealers
$50 to $500

CARDINAL DIAMOND SYNDICATE
St. Louis, Mo. Milwaukee, Wis. Los Angeles, Calif.

AEROPOINT

"The World's Most Imitated Phonograph Needle"

LONG LIFE AND PERMANENT MODELS

AERO NEEDLE CO. 619 N. MICHIGAN AVENUE, CHICAGO 11

QUICK RELIEF FOR

stuffed up

MISERIES . . . DUE TO

head colds

Keep a bottle of Mistol Drops with Ephedrine on hand, always! A few drops in each nostril help relieve that drippy, "hard to breathe" feeling due to head colds!

Mistol Drops
with EPHEDRINE

Caution: Use only as directed

Copr. 1945, Stanco Incorporated

manifestly in the manner of one accustomed to smoking while his hands were occupied.

"Try pulling it toward you," Des suggested.

Dave heaved and the fish moved. He swung forward and wound up the line gained by the heave.

"Keep him coming," Des said.

While skipper, mate and colored assistant watched incredulously, Dave steadily drew the marlin toward the boat. In another few minutes he had it close enough so that everyone could see it, lying side-on, resisting each pull with slow strokes of its tail. The swivel between the line and leader came out of water. The old-timers waited breathlessly for the fish to take fright and begin what would surely be a long and furious combat. They waited in some apprehension, for, if the marlin began to jump so close to the cockpit, it might conceivably jump in. Nothing happened.

The swivel came up and up and there was no line to reel in, and Crunch called, "Take him, Des!"

Warily, almost in a trance, Des donned his gloves and seized the leader and guided it around the stern. He looked down. The marlin was fair-sized—three-fifty, perhaps—and greener than any Des had ever tried to grab. Almost none of its energy had been expended. Nevertheless, it came up the last few feet easily and it was only when he reached for the bill that Des saw the reason; it had been hooked not in the mouth, but outside, behind the eye, in such a way that every effort to fight back distressed it, and it had yielded to each lift of the rod. Fair-caught according to the rules, it had nonetheless failed to give fight. Until, of course, Des took the bill and let go of the leader. The pressure on the hook was thus relieved. Des held in his two hands an unhurt, unweary, fierce, big blue marlin.

The first swing of its head all but threw Des overboard. The second rammed his arms against the gunwales. Crunch was at his side. The bodies of the two men were flung about as by a loose piston. Snatchy tossed the tail rope over the bill. Wrestling, banging, dancing, they got the rope under the body, one hand at a time, over the fins,

erbie who did the subsequent trembling and sweating.

His wife was nonchalant. "I gauged it," she said, "and I knew I'd be safe sitting on it."

Junius Dabney, one of the Americans who enjoy winter residence in Bimini, inspected the marlin on the pier that afternoon and invited the Weatherbies and Crunch and Des for a swim and dinner on the following day. As a patron of the island, he examined most big fish, but when he heard the story of the taking of this particular specimen he spent more time looking at beautiful Mrs. Weatherbie than he did in weighing and measuring the marlin.

He was a short, fattish gentleman with a bald head, many freckles and a provocative brown eye; his rambling "ranch house," his cactus gardens, his private pier and his boats derived directly from the fact that early in life, in violation of the platitudes, he had entered the Stock Exchange. He had emerged with his shirt and several million dollars. He also possessed a wartime colonelcy, but he did not permit it to be attached to his name. When Crunch had introduced him to his passengers, Mr. Dabney had mentioned his familiarity with the Weatherbie fame. But it was Eve, not Dave, who held his awe.

"I've more than once thought of sitting on a marlin's tail," he said. "But with me it was a pipe dream. Madam, you have nerve."

Eve's nerve was not a transient phenomenon, for on the following day she exhibited it again.

The Poseidon trolled pleasantly if unsuccessfully for many hours, and came in to accept Dabney's invitation. Soon the Weatherbies were testing the warm water which rolls softly on Bimini beach. Crunch and Des, in bathing trunks, were lingering over a beer with their host, enjoying that unquiet communion common among admiring acquaintances and old fishing hands. Indeed, they had covered in minute detail the fantastic catch of a three-hundred-and-forty-four-pound blue marlin in eleven minutes. From the screened veranda where they sat they could watch the Weatherbies splashing in the sea.

WILDROOT CREAM-OIL

2. Only a little Wildroot Cream-Oil can do a big job for your hair. Keeps your hair well groomed all day long without a trace of that greasy, plastered down look! Your hair looks good and feels good!

NON-ALCOHOLIC
CONTAINS LANOLIN!

3. LANOLIN is an oil resembling the natural oil of the human skin! No wonder 4 out of 5 users in a nation-wide test preferred Wildroot Cream-Oil to other preparations formerly used. Get it today from your barber or drug counter.

IMPORTANT: *Smart women use Wildroot Cream-Oil for quick grooming, and to relieve dryness. Also excellent for training children's hair!*

WILDROOT
CREAM-OIL
FORMULA
for the hair
contains LANOLIN
(NON-ALCOHOLIC)
GROOMS THE HAIR
RELIEVES DRYNESS
REMOVES LOOSE DANDRUFF
WILDROOT CO., INC.

TUNE IN . . . 2 Network Shows! "The Adventures of Sam Spade" Sun. evenings, CBS Network; "King Cole Trio Time" Sat. afternoons, NBC Network.

And Crunch said with some embarrassment, "Colonel ——"

"War's over, Crunch. I told you boys to call me 'Junius' in 1935."

Crunch chuckled. "Okay. Well, Junius, I hate to say so, but I don't know who the Weatherbies are. Mr. Taylor sent them to me ——"

"Taylor! How is the old movie magnate?"

"Fine. He'll be over here later."

"Wonderful! Wonderful! I'm planning all sorts of fun for my friends this year. . . . Weatherbie?" Dabney's dark eyes were momentarily surprised. "I get it. You've been working on the Poseidon all fall. Don't keep up with the news. Weatherbie's one of the main men in the atom bomb."

Crunch thought that over. "A physicist."

"Lord, yes. Administrator too. Getting to be a politician—all-out for world control of atomic energy. Funny part is, his wife is on the other side. She's been stumping Massachusetts for keeping every secret we've got and piling up more. They've been writing pro-and-con articles for some newspaper syndicate. I read a few. You know the arguments. But Eve Weatherbie"—he squinted down the beach—"has a new one. She says scientists don't have enough initiative and moral courage to take charge of anything so powerful. It's a soldier's assignment, she says. And since she's married to a scientist, it cuts a lot of ice."

Crunch looked at the moisture on his glass, made a thumbprint in it and sipped a little beer.

"It seems to me," he said slowly, "that it took quite a lot of initiative and moral courage to make the atom bomb."

Mr. Dabney shrugged. "Let's swim."

Crunch hesitated. "Nothing timid about that guy. It's just that he's . . . the thoughtful kind."

"How do you like his wife?"

Crunch and Des spoke together, "Lots."

They had crossed the sidewalk which runs along the rim of the island when Dave Weatherbie shouted, "Look out!" He was pointing, and his shout was for Eve. Both Weatherbies were standing in water up to their necks some fifty feet offshore. He was indicating a dark,

(Continued on Page 54)

The Role I Liked Best . . .

Preferred by Three Generations

● When the young bride of today insists on buying only well-known, dependable products . . . like Premier . . . she is following in the footsteps of her mother, and her grandmother, too. Buying a Premier has become, for each of them, a family tradition . . . one well worth passing along. Premier has *always* meant smart style, distinguished performance and long life. That's why the Premier vacuum cleaner has been *preferred* by three generations of discriminating women . . . and that's why it's the "last

Smoke VICEROYS!

ADVISE 6,520 DENTISTS

The Nicotine and Tars Trapped* by The Viceroy Filter *CAN NEVER STAIN YOUR TEETH!*

"YES!" advise 6,520 dentists, "Smoke Viceroys!" The nicotine and tars trapped by the Viceroy Filter *can never stain your teeth.* No unsightly bits of tobacco can lodge between your teeth, cause more stain.

(Continued from Page 52)

diamond-shaped blur under the water not far away and slowly advancing upon them. He began to back toward the shore.

"Sting ray!" Mr. Dabney bellowed. "Better come in till it passes by!" He turned to Crunch and Des. "Whopper, isn't it?"

Weatherbie retreated. His wife, however, waded and then swam closer to the ray. Again their host yelled, "Eve! Don't touch it! Stay clear!"

"It'll veer off," Des said calmly.

Mr. Dabney seemed anxious. There was no way to intervene; the ray and Eve were less than twenty feet apart. And she was still paddling toward it. Dabney said, "Damn it! They get curious . . . like any fish. If it got under her and she kicked it accidentally ——"

He didn't need to expand the thought. Eight inches of steely, poisonous, barbed spine would be driven into whatever portion of Eve happened to be nearest the ray. And she kept swimming toward it. The ray had now slowed almost to a stop; it seemed to be waiting. Dave Weatherbie stood helplessly, halfway between the shore and his wife. Crunch yelled, "For heaven's sake come in!"

Instead, Eve performed a quick surface dive. Crunch thought for a moment that she intended to try to swim under the ray and come up on the opposite side—an unlikely maneuver, in view of the fact that the animal lived mainly on the bottom. What actually happened was that as soon as the woman disappeared under the surface glitter, the ray took off—away from her—with the speed of a cellar door in a hurricane.

Eve came up. She was laughing! "You see!" she called to her husband. "They're not afraid of you on the surface or wading! But if you get down in there with them, they think you're a shark or something!" She turned over on her back. "Come on in, darling! The water's fine!"

Mr. Dabney asked her, at dinner, how she knew that the ray would turn tail if she swam toward it under water.

"We found that out when we were kids and wintered on the west coast of Florida. We scared hundreds of them."

"You scared me worse," Mr. Weatherbie murmured.

She looked at him lovingly, but she said, "Pooh!"

Crunch exchanged a glance with Mr. Dabney; that, the glance said, was the way it was in the family of David Weatherbie.

After dinner they inspected Mr. Dabney's mounted fish—his six-hundred-and-two-pound marlin, which covered a wall—and his collection of small tropical fish—which were set on another wall, painted to imitate a coral reef.

"Like all the bright butterflies," Eve said, "gathered together in one garden. And then, at the bottom ——" She pointed out the stuffed head of a moray protruding from a painted hole in the coral.

Mr. Dabney nodded. "That demon."

"But it's beautiful!"

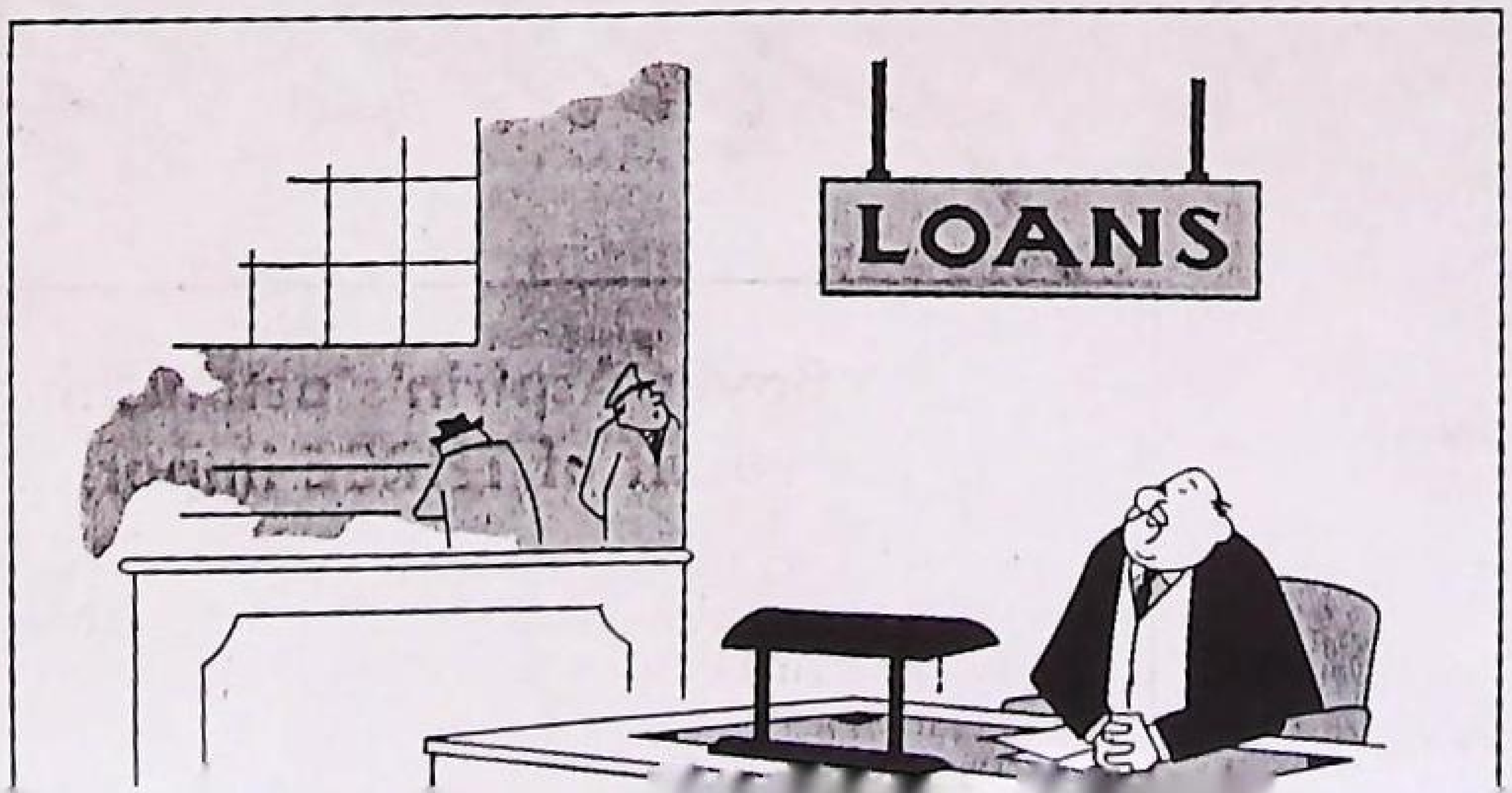
For a long time she talked about the green loveliness of the moray—a marine eel so sharp-toothed and violent that most who come to know it overlook any charm of coloring it possesses.

Finally her husband stopped her, indirectly. "Didn't you say something about bridge, Dabney?"

Their host had mentioned it.

Crunch made a fourth. As always on such occasions, Des begged off. The best player on the Gulf Stream Dock, Des was too reticent to sit in a game with strangers. Crunch explained that quality after his mate's departure. "If Des has known you for about five years, he'll kibitz. When he knows you for ten, he'll play, and beat the devil out of you. He's particularly hot at duplicate."

The days followed a pattern of afternoon fishing until swimming time, another hour or two of trolling before sunset, and bridge at the Dabney house. Eve Weatherbie hooked and lost a small blue marlin—a mere two-hundred-pounder. She caught a white marlin. Her husband, dragging a center line—a strip of cut fish let out between



A *Quic*
Me
FOR BUS
SHOPPER

Morto
a
Ready

Holiday shop
Just heat and
with tender ch
lect mushroo

Morto
CHICK
A LA KI

m
QUIC

COMPLETE OUTFI

Ribaux
(pronounced REE BO)

PRIZED FOR ITS
- faultless timekeeping
- exquisite styling
- outstanding value

$42.50
17 JEWELS
Fed. tax incl.

$27.50
7 JEWELS
Fed. tax incl.

Nationally favored for their precision timekeeping, elegance of styling and value. Ribaux watches are an outstanding achievement at their popular prices.

T.M. REG. U.S. PAT. OFF.

Sold by better jewelers

Ribaux Watches
15 WEST 48th STREET
NEW YORK

"AMERICA APPRECIATES GOOD TIME"

the two big marlin baits on light tackle—took several barracuda, a wahoo and dolphins of various sizes. Crunch could see that Eve was keen to catch a marlin for herself and, by the questions she asked, he realized that her ambition was limited not to the taking of a specimen, but of a bigger specimen than her husband's.

As he zigzagged down the blue Gulf Stream and through the days, Crunch tried to figure it out. Certain modern women—women wonderful by themselves—brought into their homes the old basketball and field-hockey spirit, and for want of any other, they made their husbands the opposing team. Eve had done it even in Dave's own field of science, arguing publicly against his theories and ideas. Fortunately for the trip, they had apparently decided on a truce, and ten days passed before there was mention of their taboo.

Then it was Mr. Dabney who brought it up, between rubbers and with a secret look which Crunch felt was malicious. "I hear," he said to Dave, "that Congress may lock up all you boys in your laboratories and make your knowledge a military secret."

Dave's mouth straightened. His color changed. He started to glance at Eve, checked his eyes, and absently shuffled. "Yeah."

But Eve did not let the opening pass. "It's perfectly logical. A matter of sanity and security. Dave and his colleagues are complete visionaries. Their work was brilliant. But what is needed now is cold, military nerve. Decisiveness. A willingness to take a great risk because we possess a great discovery. All the fuddy-duddies in Dave's field want to give the world the bomb ——"

Dave interrupted in a quiet, strained voice, "We want to get abstract knowledge out in the open again as soon as possible, that's all. Secrecy here means secrecy everywhere. Fatal! Besides, no nation can own knowledge ——"

There was an absence of strain in her interruption; she smiled indulgently. "Dreamers, without moral courage or conviction."

Mr. Dabney said lightly, "Crunch was saying it took some courage to touch off the first bomb."

suggestion of Mr. Dabney's to try the reefs for a while.

And it was for this reason that, on the thirteenth day of the charter (Eve had predicted it would be a lucky day for her) the Poseidon cruised back and forth a few hundred yards off some jagged coral escarpments known as Turtle Rocks. The weather was calm and the sky clear; here and there on the horizon, boats from Bimini and Cat Cay swept pairs of bonefish along the Gulf Stream, waiting and hoping for the emergence of the black bills of marlins. The Poseidon towed no bonefish. Her outriggers pointed vertically because they were not in use. Instead, in the stern corners of the cockpit stood Mr. Weatherbie and his wife, holding rods from which the line ran straight back. They kept steadily jigging those rods, pulling them ahead and letting them back quickly, so that their baits would leap forward and then settle a little.

A 'cuda lunged at Eve's bait, threw water, ran, bounced on the surface and fought jerkily until Des boated it. Dave hooked a big grouper, lost it, and hooked another, which he reeled in after a short fight; the pull of its huge open mouth made the final operation like the reeling in of a bucket. They caught three mutton snappers—twelve or fifteen pounders. Fishing was fast, and fun—an exhilarating change from the unrewarding search for marlins. The numbers and variety of the fish caught seemed to break down the hostility of the Weatherbies, and after two hours of reef fishing they were a pair again, as excited as kids.

Crunch, felt happier. If such fishing brought the Weatherbies together again, he would gladly forgo the marlins. Mr. Taylor's hopes would be realized. Crunch surveyed the wide flat ocean with pleasure. Now and again, chocolate-brown figures of fish rose behind the white dots of the baits and struck or wisely swam away. When he looked straight down from the canopy, Crunch could see bottom some fifty feet below—the wilderness of coral, of chasm, vale and peak, in which these various fishes dwelt. The sun burned warmly on his brown skin. A school of

When your throa
feels like a
BUZZ-SAW

Make it feel smooth
as ICE CREAM!

Chew...
Cough-lets
DOUBLE-ACTION
MEDICATION SOOTHES
CHEWING GUM COUGH DROPS

SAY "SO LONG"
TO BUZZ-SAW THROAT

Nationally favored for their precision timekeeping, elegance of styling and value, Ribaux watches are an outstanding achievement at their popular prices.

T.M. REG. U.S. PAT. OFF.

Sold by better jewelers

Ribaux Watches
15 WEST 48th STREET
NEW YORK

"AMERICA APPRECIATES GOOD TIME"

the GIFT he'd give himself

TIE CHAINS

COLLAR HOLDERS

TIE SLIDES

KEY CHAINS

STYLED for the man's point-of-view . . . masculine in appeal. You couldn't please him more than with . . .

JEWELRY NECESSITIES

by Manleigh

Individual pieces or matched sets

Smartly gift-boxed, $1 to $20 (plus tax) at better stores everywhere . . . .
MANLEIGH, INC., PROVIDENCE 3, R. I.

snuffled. "Yeah."

But Eve did not let the opening pass. "'It's perfectly logical. A matter of sanity and security. Dave and his colleagues are complete visionaries. Their work was brilliant. But what is needed now is cold, military nerve. Decisiveness. A willingness to take a great risk because we possess a great discovery. All the fuddy-duddies in Dave's field want to give the world the bomb ——"

Dave interrupted in a quiet, strained voice, "We want to get abstract knowledge out in the open again as soon as possible, that's all. Secrecy here means secrecy everywhere. Fatal! Besides, no nation can own knowledge ——"

There was an absence of strain in her interruption; she smiled indulgently. "Dreamers, without moral courage or conviction."

Mr. Dabney said lightly, "Crunch was saying it took some courage to touch off the first bomb."

"Dave was miles away," she answered. "Anyhow, it was soldiers who handled the bomb from the first, as you'd expect. Why, Dave's even afraid of sting rays!"

It was the kind of discussion Crunch hated to hear—the sweet and chilly tones of the wife, the frantic restraint of the husband. The subject in such arguments did not matter; the method was the hurtful part. And Eve's mention of sting rays had been below the belt. Crunch thought that Dave ought to take her home and spank her.

But Weatherbie only laughed—his feelings conquered—and said, "Maybe she's right. Let's play bridge."

After that evening, however, there was increased tension on board the Poseidon. Crunch was certain that the truce about the atom bomb, broken at Mr. Dabney's home, was broken again in the plushy nights when the Weatherbies lay abed; they had the grim morning look of uncompromising arguers. And when they trolled, Eve had a redoubled alertness, as if it had become a matter of necessity for her to outfish her husband, while Dave seemed lost in thought and unaware that he was supposed to be fishing.

In an effort to break that locked hostility of long hours of fruitless fishing (it seemed suddenly as if all the fish in the sea had abruptly left the shores of Bimini) Crunch accepted a caught three mutton snappers—twelve or fifteen pounders. Fishing was fast, and fun—an exhilarating change from the unrewarding search for marlins. The numbers and variety of the fish caught seemed to break down the hostility of the Weatherbies, and after two hours of reef fishing they were a pair again, as excited as kids.

Crunch, felt happier. If such fishing brought the Weatherbies together again, he would gladly forgo the marlins. Mr. Taylor's hopes would be realized. Crunch surveyed the wide flat ocean with pleasure. Now and again, chocolate-brown figures of fish rose behind the white dots of the baits and struck or wisely swam away. When he looked straight down from the canopy, Crunch could see bottom some fifty feet below—the wilderness of coral, of chasm, vale and peak, in which these various fishes dwelt. The sun burned warmly on his brown skin. A school of horse-eyes swam past in the blue murk.

Then Des said, "Hey!" and pointed.

Crunch looked. A quarter of a mile to the south and some few hundred yards farther out to sea, a big fish or a big fin was showing. Even as he looked, it rose higher. Orange-yellow. For a split second Crunch thought it was a loggerhead turtle, rising edgewise, as if in the jaws of some enormous shark. It kept lifting.

Crunch yelled for the glasses and saw them already held up by Des. He focused on the phenomenon. He felt the hair on his head and the fine hair all over his body tingle and stand erect. He did not know that his mouth had fallen open or that his breathing had stopped. He was seeing a thing he had heard about all his life and never once believed. For a head emerged out of the water—a head ten feet long, a snake's head—and behind it came the long curved neck. Up and up the monster rose—a dozen feet, then perhaps twenty. It stopped and slowly turned toward them.

Eve screamed. She knew what it was.

Des said in a ghastly tone, "It is one."

Then Dave Weatherbie propelled himself up on the canopy. He said, "May I?" He was polite, even in this emotional extremity.

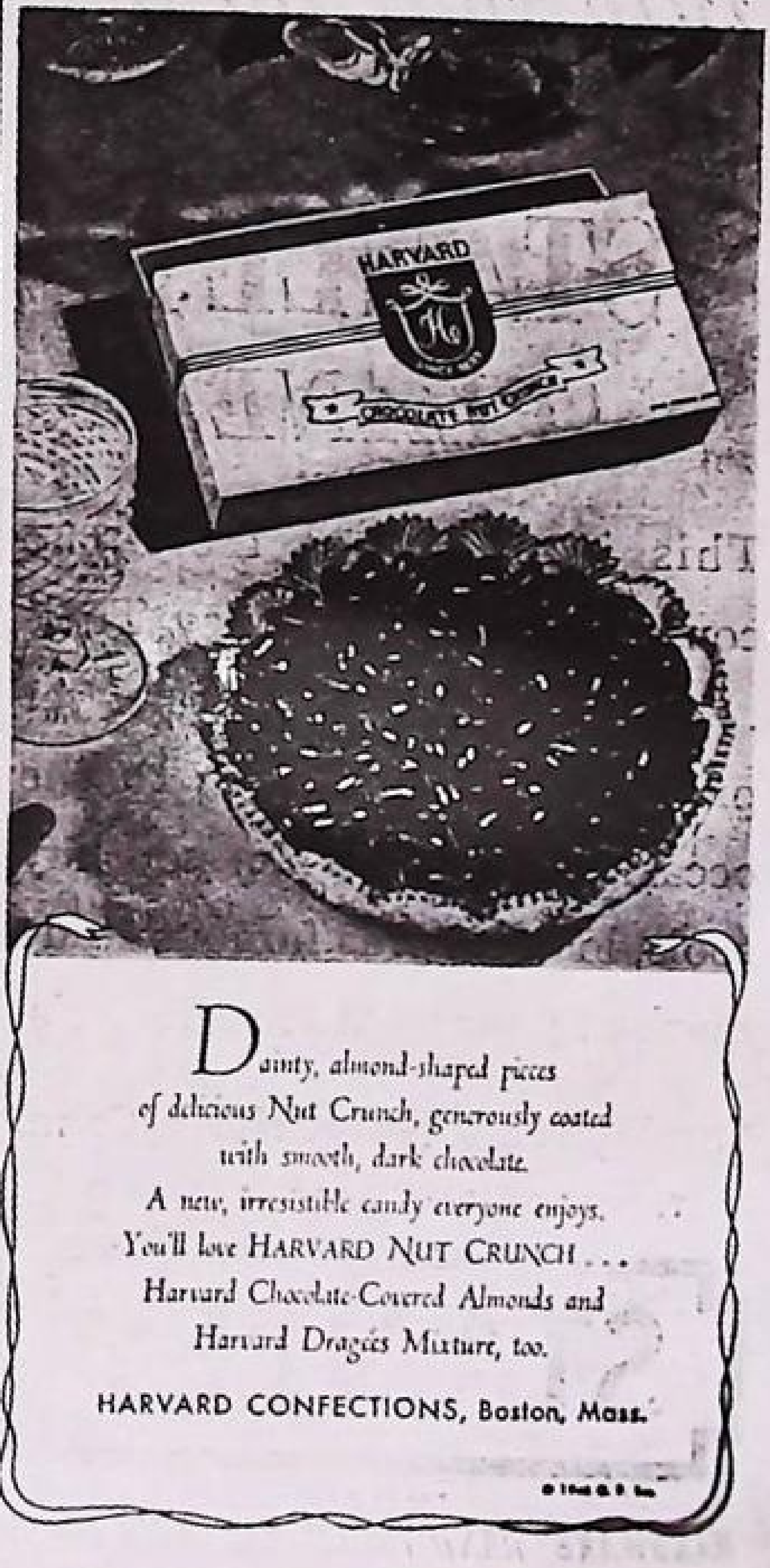
Crunch handed the glasses to him. Dave looked at the serpent with the sedan-sized head and the twenty-foot

Chew... Cough-lets

MEDICATION SOOTHES DOUBLE-ACTION CHEWING KEEPS THE THROAT MOIST
CHEWING GUM COUGH DROPS

SAY "SO LONG" TO BUZZ-SAW THROAT

GET DOUBLE-ACTION RELIEF:
1. Medication soothes.
2. Chewing keeps your throat moist.



HARVARD

Dainty, almond-shaped pieces
of delicious Nut Crunch, generously coated
with smooth, dark chocolate.
A new, irresistible candy everyone enjoys.
You'll love HARVARD NUT CRUNCH . . .
Harvard Chocolate-Covered Almonds and
Harvard Dragées Mixture, too.

HARVARD CONFECTIONS, Boston, Mass.

...To put skill into your hands!

A STANLEY PLANE

This is one tool from the complete line of Stanley Tools ... designed for experts ... yet priced to appeal even to the occasional user. When you buy tools, look for this famous trade mark at your hardware dealer's.

Stanley Tools, New Britain, Conn.

THE TOOL BOX OF THE WORLD

STANLEY

TRADE MARK

HARDWARE · HAND TOOLS · ELECTRIC TOOLS

perate's mouth. And Snatchy was on his knees, gibbering. The responsibility was Crunch's alone.

"Couldn't we," he said quietly to Weatherbie, "wait and see what it does?"

"Get started, man! Are you going to let the chance of a lifetime slip through your fingers?"

Eve glanced at the monster and turned to Crunch. She was steady now. "I order you," she said in metallic tones, "to run full speed away!"

That settled it. Crunch jammed both throttles forward and put the helm over. The Poseidon picked up speed and headed for the fabulous beast that rode the sea, facing them. As they went, Weatherbie kept bawling observations to Des. The quarter mile became an eighth of a mile. The beast began to submerge, inclining toward them as it did so. Eve's frantic scream overrode the loud beat of the engines. But the sea serpent disappeared before they reached its position, and when they looked overboard they could see nothing but the dim shadows of the reef.

Only when Mr. Weatherbie was satisfied did Crunch, sweat-soaked and shaky, put the boat around for the last time and head for Bimini, keeping well inshore. And only then did the scientist deign to go below to do something for his wife. She had, in Desperate's words, passed out cold as a mackerel. Des had added, "I'll be next."

News of the sea serpent swept Bimini like fire. It went out on the radiophones to the fishing boats, and the boats came to shore. Word went across on the same phones to Miami. Eve, barely conscious, was aided to her room by a husband who kept saying anxiously, "What else would you have wanted me to do, dear? I'm a scientist, for pity's sake!"

It was along toward noon and lunchtime when an idea hit Crunch as, for the tenth time, he told his story to awed islanders.

"Did Mr. Dabney go out today?" he asked.

"He went bonefishing, he's been bonefishing a lot lately." The dockmaster supplied that information. "Not catching any, either." He wiped his black face with a wiry hand and

pretty good, I thought. It would just barely float when we got it done. It's an old gag worked on Lake George once. You sink a block of cement with an eyebolt in it and a heavy line running through the eye. When you haul on the line, your raft and serpent sink. Slack away, and up she comes. I was sitting behind Turtle Rock in a dinghy, and when you got in the right spot—not too close to see the paint job—I slacked away, and up she came."

"She sure did," Crunch said. "'Up,' as you put it, 'she came.'"

"Stick around for lunch."

Crunch stuck around. It was midafternoon when Mr. Weatherbie sauntered along the strip of cement known as the Queen's Highway and joined them.

He looked at Mr. Dabney cryptically for a moment and then said, "Thanks, old fellow. Did Eve a world of good. She even wants to reverse herself on the atom." He turned to Crunch. "Let's troll, later on, for a while, and shame the others back to fishing." His eyes went again to the ex-colonel. "But I do hope you'll—er—sustain the sea-serpent fiction for a while. A week or so, anyway—till her new mood jells, so to speak."

trip. Dave was returning to his laboratory, a confident husband in full command of circumstances, extant and potential.

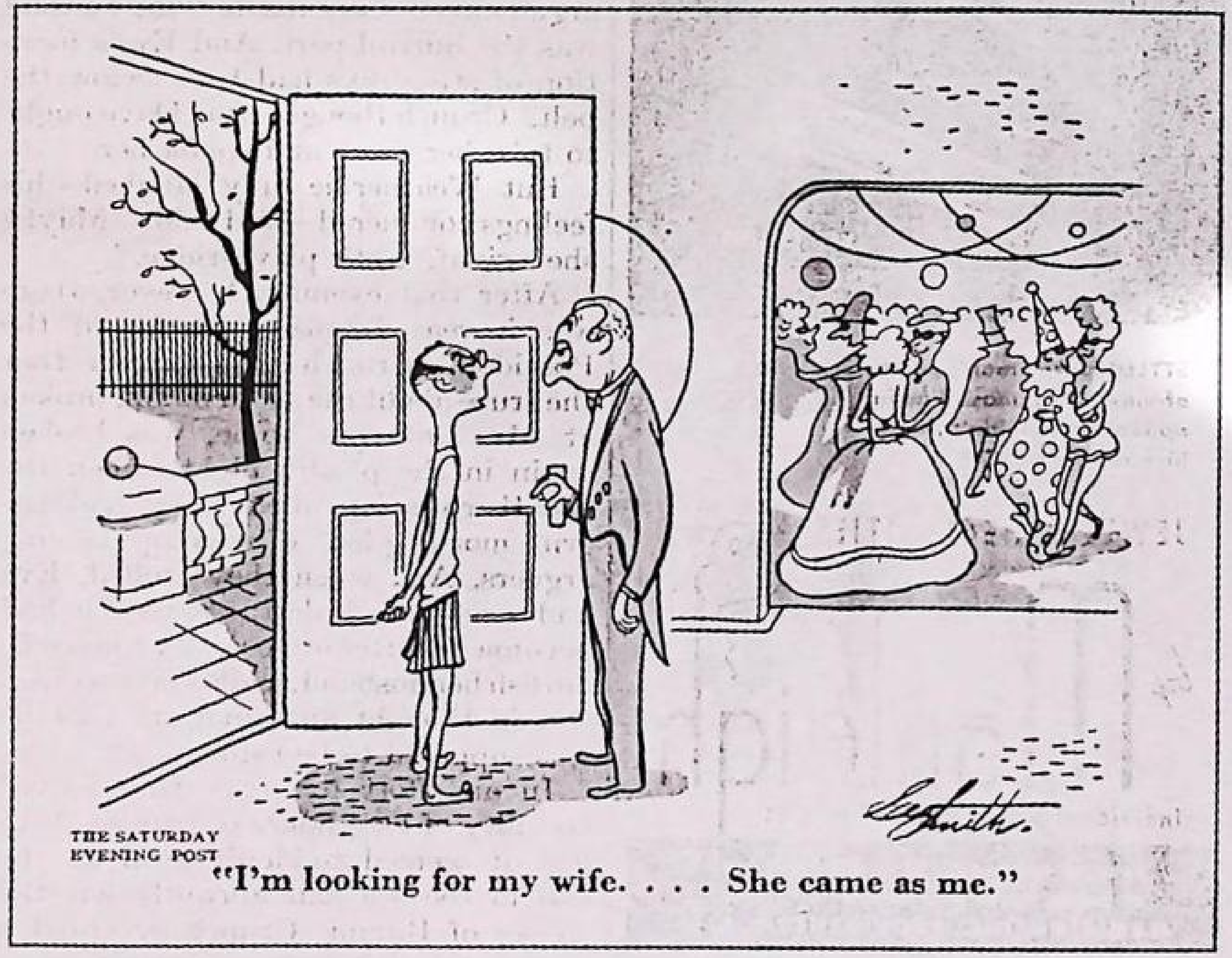
Desultorily, Crunch watched the landing of the little red plane that is a main link between Bimini and Florida. His sense of solitude and of enforced wait for his next Bimini customer was broken by Sari's voice. She ran down the pier. One flying step brought her aboard, another into her skipper's arms.

"Darling!" she said, with interruptions. "It's wonderful! Bob Braistedt hired me to get the sea-serpent story for the Dispatch. It's all over Miami, and he thinks there's more in it than we hear. I get expenses and a hundred dollars if you'll tell me the whole thing in your own words. Will you? I parked Bill and came right away. Aren't you simply terrified?"

A variable light shone in Crunch's eyes; part of it was humorous, but most of it was the light Sari had put there long ago and kept alive ever since.

"It was gruesome," he said. "Horrifying. But you can't have the story for a week, and the Dispatch will have to pay your expenses over here till then. I think they will. It'll make quite a scoop."

THE END



THE SATURDAY EVENING POST

"I'm looking for my wife. . . . She came as me."

STAN
BAILEY
...To put skill into your hands!

neck. Crunch stood there, feeling weak, while the Poseidon trolled on by itself.

"Get a pad, Eve!" Mr. Weatherbie yelled.

It made no sense to Crunch. Eve said faintly, "I couldn't write, Dave. I'm too shaky." Des got a pad and pencil.

Mr. Weatherbie, as if he were plotting gunfire, now began to dictate, "Neck orange with brown mottling. Tusks . . . they must be two feet long! Tongue moves in and out like a terrestrial serpent's. No visible ears. Eyes, large, glassy-blue, situated directly above center of jaws." He turned. "Get going, Crunch!"

Eve had walked weakly into view. "Yes," she whispered. "Please, hurry!"

Her husband took the glasses from his eyes and looked down. For one instant he seemed utterly amazed. "I mean hurry toward it, Eve."

She said, "No!" loudly.

"Do you realize that we are the first scientifically trained people in the world who ever got a look at a sea serpent?"

Eve stared at him and then looked at Crunch. "Hurry!"

Crunch was frightened. He could see the pale rim of fear around Desperate's mouth. And Snatchy was on his knees, gibbering. The responsibility was Crunch's alone.

"Couldn't we," he said quietly to Weatherbie, "wait and see what it does?"

"Get started, man! Are you going to let the chance of a lifetime slip through your fingers?"

Eve glanced at the monster and turned to Crunch. She was steady now. "I order you," she said in metallic tones, "to run full speed away!"

That settled it. Crunch jammed both throttles forward and put the helm over. The Poseidon picked up speed and headed for the fabulous beast that rode the sea, facing them. As they went, Weatherbie kept bawling observations to Des. The quarter mile became an eighth of a mile. The beast began to submerge, inclining toward them as it did so. Eve's frantic scream overrode the loud beat of the engines. But the sea serpent disap-

chuckled. "Guess it'll be quite a spell before anybody fishes for anything in these parts."

Mr. Dabney was having a beer on his porch. He ordered one for Crunch, and as they sat together, he scrutinized the skipper. "Quite an experience you had," he said.

Crunch nodded. A long time passed. "You noticed," Crunch finally said, "that she was afraid of morays, and pretended to like them. You figured she was afraid of snakes—the bigger, the scareder."

"Why?" the ex-military man asked blandly.

"You didn't like the way she gloated over her husband."

"Ah?" said Dabney.

"Nice guy," Crunch went on. "A genius, besides. She passed out cold, you know."

Mr. Dabney suddenly grinned. Then he chuckled. He slapped his knee. He spilled his beer. He roared. "Cold!" he kept saying.

"It was very realistic," Crunch conceded, when his glass had been filled again.

Dabney puckered his lips. "We built it in the boathouse. Used an old catamaran and canvas. I painted it myself—the eyes and the teeth were pretty good, I thought. It would just barely float when we got it done. It's an old gag worked on Lake George once. You sink a block of cement with an eyebolt in it and a heavy line running through the eye. When you haul on the line, your raft and serpent sink. Slack away, and up she comes. I was sitting behind Turtle Rock in a dinghy, and when you got in the right spot—not too close to see the paint job—I slacked away, and up she came."

"She sure did," Crunch said. "'Up,' as you put it, 'she came.'"

"Stick around for lunch."

Crunch stuck around. It was mid-afternoon when Mr. Weatherbie sauntered along the strip of cement known as the Queen's Highway and joined them.

He looked at Mr. Dabney cryptically for a moment and then said, "Thanks, old fellow. Did Eve a world of good. She even wants to reverse herself on the atom." He turned to

Crunch sat there, stunned.

Mr. Dabney recovered gradually. "You knew, eh?"

The physicist allowed himself a grin. "Being a man of science, I took, almost from the first, the view that the sea serpent is a myth. Then I noticed it rocked a bit, like the mast on a small boat and not like the head and neck of an animal. I remembered, at that point, the orange paint I'd observed on your fingers at bridge the other night. I'd no more than asked Crunch to come about than I realized not science, but perhaps Eve would profit from the spectacle."

"But you told Crunch to turn when you still thought ——"

"—— it was alive. As a scientist, naturally."

"Good man," Mr. Dabney murmured.

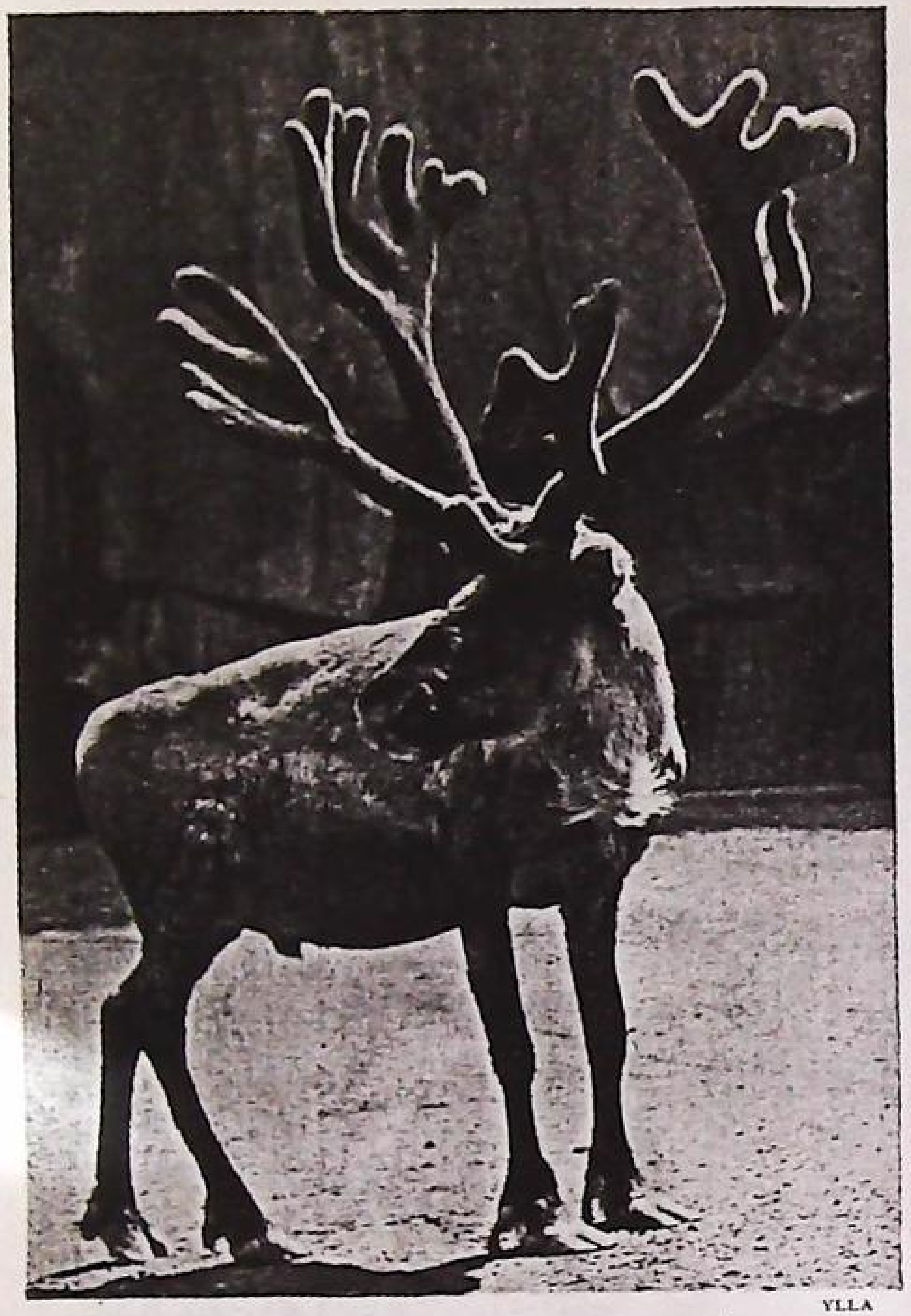
On the following evening as the sun went down, Crunch sat alone and lonesomely in the cockpit of the Poseidon. The Weatherbies had paid up their charter and departed; Eve to undo the wrong she'd done to her husband, "immediately and publicly," she had said. And she had said, "Yes, dear," more often in the parting hours, Crunch reckoned, than during the rest of the trip. Dave was returning to his laboratory, a confident husband in full command of circumstances, extant and potential.

Desultorily, Crunch watched the landing of the little red plane that is a main link between Bimini and Florida. His sense of solitude and of enforced wait for his next Bimini customer was broken by Sari's voice. She ran down the pier. One flying step brought her aboard, another into her skipper's arms.

"Darling!" she said, with interruptions. "It's wonderful! Bob Braistedt hired me to get the sea-serpent story for the Dispatch. It's all over Miami, and he thinks there's more in it than we hear. I get expenses and a hundred dollars if you'll tell me the whole thing in your own words. Will you? I parked Bill and came right away. Aren't you simply terrified?"

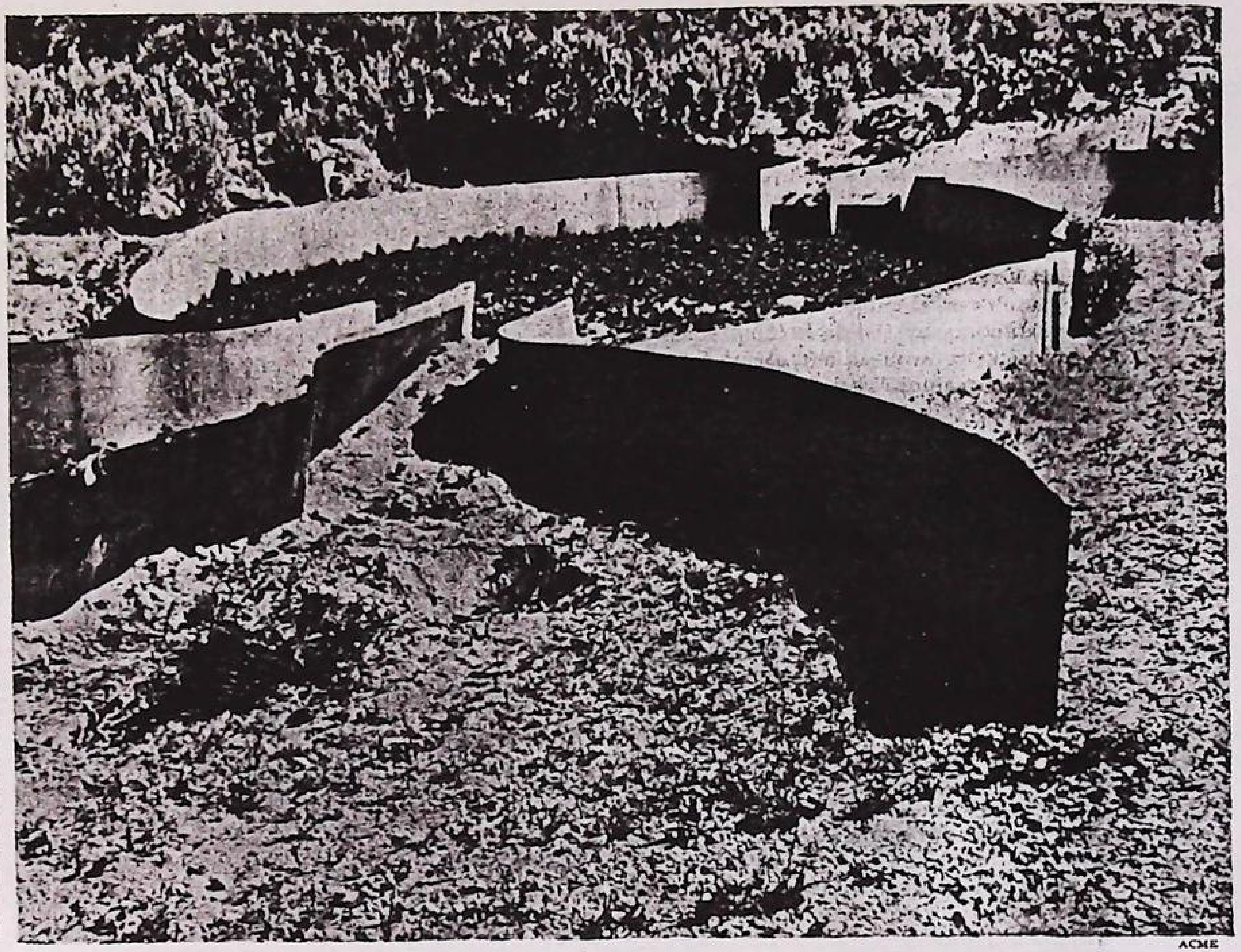
A variable light shone in Crunch's eyes; part of it was humorous, but most of it was the light Sari had put

MAGAZINE: THE SATURDAY EVENING POST
DATE: 15 JULY 1944, VOL. 216, #3
PAGES: 12-13, 80, 82-83
ARTICLE: THE MYSTERY OF MIGRATION
AUTHOR: IVAN T. SANDERSON



YLLA

Male reindeer. In circumpolar regions, these animals move south in the fall, north in spring.



ACME

Here is one means of fighting migrant swarms of grasshoppers: Build traps across their path, spread poison inside the traps.

The Mystery of Migration

By IVAN T. SANDERSON

WHY does one bird fly from the Arctic to the Antarctic and back again every year—a distance almost equal to that of the earth's circumference—while another spends its whole life around a small copse, never venturing more than a few yards beyond its confines? Why do birds set out from New Zealand across hundreds of miles of landless ocean and, after spending a few months in Australia, fly all the way back again? How do golden plover from

It took many years to convince people otherwise, as is demonstrated by quite recent testimony asserting that swallows were actually found in cakes of mud.

After modern scientific investigation had shown that the birds which disappear from northern climes in the fall go to the tropics, and that migration is a natural habit common to a great part of the animal world, a confusion of quite another kind arose. All over the world, men had from time to time encountered vast armies of animals advancing across the face of the earth in countless millions, often without apparent cause. Many of these mass movements were of such proportions as seriously to interfere with man's way

A well-known naturalist tells some astonishing facts and theories about a phenomenon that has fascinated man since the days of ancient Egypt.

Other mass movements, though less frequent, are almost as well known. In the north of Canada and in Norway, vast hosts of little, almost tailless, ratlike animals known as lemmings, pour down from the barren uplands from time to time and, after crossing the coastal plains, plunge into the sea and disappear. In South Africa, herds of delicate little antelopes known as springbok, pressed shoulder to shoulder and reaching in all directions as far as the eye can see, suddenly

YLLA

Male reindeer. In circumpolar regions, these animals move south in the fall, north in spring.

ACME

Here is one means of fighting migrant swarms of grasshoppers: Build traps across their path, spread poison inside the traps.

The Mystery of Migration

A well-known naturalist tells some astonishing facts and theories about a phenomenon that has fascinated man since the days of ancient Egypt.

By IVAN T. SANDERSON

WHY does one bird fly from the Arctic to the Antarctic and back again every year—a distance almost equal to that of the earth's circumference—while another spends its whole life around a small copse, never venturing more than a few yards beyond its confines? Why do birds set out from New Zealand across hundreds of miles of landless ocean and, after spending a few months in Australia, fly all the way back again? How do golden plover from Alaska find their way every year to the tiny islands of Hawaii in the limitless Pacific? What induces eels, after years of complacent puttering in European ponds and streams, to change their color, go down to the sea, and swim thousands of miles across the Atlantic to lay their eggs; and, still more baffling, why should their tiny, fragile offspring spend three years struggling back along the same hazardous path while billions drop by the wayside?

The whole business of migration is one gigantic question—one of the greatest in nature. It is even a question as to whether we know the answer, for we cannot be sure that all the incredible facts we have now gathered about this extraordinary phenomenon add up to an explanation. The migration of animals has been observed by man for thousands of years. Early hieroglyphic writings of ancient Egypt record the seasonal arrival of the cranes, and the Greeks frequently chirrup in their odes about the sudden comings and goings of the swallows. Ancient Indian literature notes the disappearance of many creatures at the onset of the summer heat, and the Romans added their apparently logical, but totally inaccurate, explanations of these periodic disappearances of wild life.

The Romans started many fallacies about migration—fallacies which persisted until recent times, and even still persist in out-of-the-way places. The ancients had a simple, peasant understanding of nature, but the Romans, and, after them, our own ancestors, with a growing interest in the complexities of existence, resorted to quite unnecessarily fantastic interpretations of what they saw. Before the rebirth of science two centuries ago, the western world still believed that swallows hibernated in the mud at the bottom of lakes. It took many years to convince people otherwise, as is demonstrated by quite recent testimony asserting that swallows were actually found in cakes of mud.

After modern scientific investigation had shown that the birds which disappear from northern climes in the fall go to the tropics, and that migration is a natural habit common to a great part of the animal world, a confusion of quite another kind arose. All over the world, men had from time to time encountered vast armies of animals advancing across the face of the earth in countless millions, often without apparent cause. Many of these mass movements were of such proportions as seriously to interfere with man's way of life.

The commonest example is probably the locust, a perennial scourge in many warmer lands, which has alarmed and mystified humanity since the dawn of history. One swarm which was scientifically investigated in the Red Sea covered an area of 2000 square miles and the estimated weight of the insects that composed it—worked out at an average of one sixteenth of an ounce per insect—amounted to 42,850,000,000 tons. Yet another, even larger swarm passed over exactly the same route next day, the combined swarms said to have totaled more than the weight of Manhattan Island above sea level.

N. Y. PUBLIC LIBRARY

The lemming suddenly leaves home, jumps into the sea, drowns. Why? Something he ate.

Other mass movements, though less frequent, are almost as well known. In the north of Canada and in Norway, vast hosts of little, almost tailless, ratlike animals known as lemmings, pour down from the barren uplands from time to time and, after crossing the coastal plains, plunge into the sea and disappear. In South Africa, herds of delicate little antelopes known as springbok, pressed shoulder to shoulder and reaching in all directions as far as the eye can see, suddenly make their appearance and likewise plunge to their destruction in the sea. These unexpected eruptions of animal life occur in almost every country. I once walked for an hour through a continuous carpet of little hopping frogs in the grass fields of West Africa, and, while living in the jungles of South America, we became used to a never-ending succession of swarms of different insects, each lasting but a few hours or a few days. If you refer to back issues of the daily papers, you will see that hardly a summer season passes without some swarm of insects being reported from one part or another of greater New York. Last year, Brooklyn had two—first it was green flies, that appeared from nowhere; and then it was huge cockroaches with faces like Tojo, that appeared out of drains.

Such phenomenal appearances of animals should properly be described as emigrations. They arise from different causes, follow a different course and end in a manner that is absolutely contrary to that of migration. The difference is between life and death, for migration is designed to make possible the continuation of the species, while emigration invariably ends in total extinction of the hordes. Emigration is, in fact, mass suicide. Yet there are things in common between these two contrary marvels—features that must be understood before any attempt to explain migration can be made.

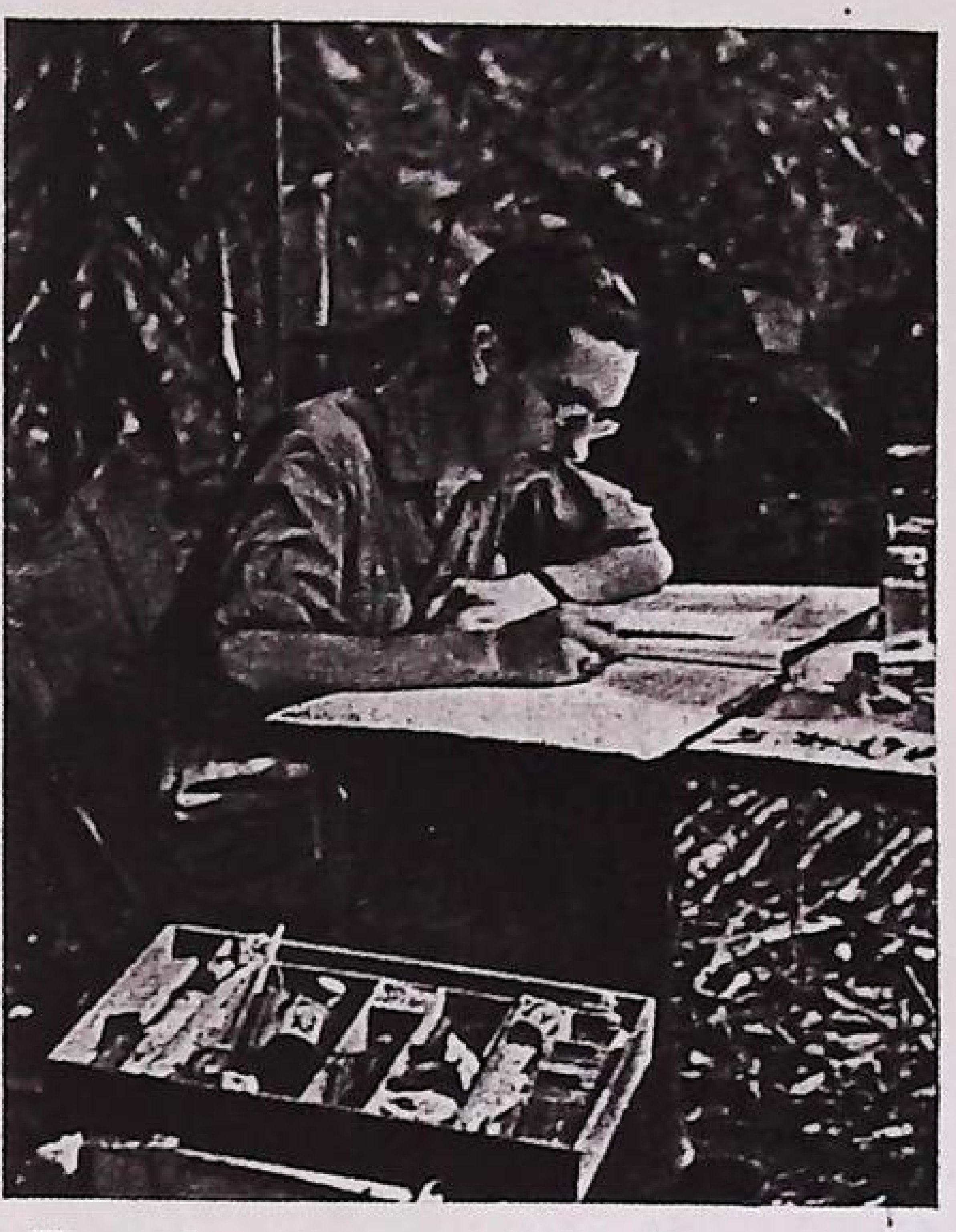
Scientists had long noted a certain periodicity in the occurrence of the Norwegian "lemming years," as they are called, and while they were investigating this fact, several most unexpected and, at first, inexplicable things came to light. The lemmings live in distinct colonies on barren mountain uplands above the tree line, where the vegetation is composed of stunted herbage, grasses and lichens. The woods below are inhabited by another kind of lemming, and the species keep strictly to their own territory.

Every so many years a great increase is noted in the number of lemmings in one of the colonies, and concurrent with this increase the little animals, which are usually the timidest of creatures, become rather bold and fearless. They begin to produce larger litters of young at shorter intervals and throughout a longer period of the year. As a result, the whole population increases progressively, but, strangely enough, surrounding colonies do not do so; nor do the woodland lemmings close by. Then another most unexpected thing occurs.

The animals that prey on the lemmings also begin to increase in numbers—owls, martens, weasels and hawks—and they, too, become bolder and more voracious. The whole process goes on until there is hardly standing room for the animals, when the multitudes begin to spill over into the woodlands—a land quite unsuited to the species. The expanding colony never invades the territory of surrounding lemmings of their own kind; they only move into that of the wood lemmings, and once the dam has burst, the hosts pour forth and down the mountainside, followed by swarms of enemies that prey on them ceaselessly. Then on they go, not in columns, but as a vast moving blanket that creeps across the earth.

The lemmings may take two or three years to reach the western coast of Norway, according to the territory in which the swarm originates, while all the time they are devoured by the thousands, die in millions from a fever contracted by drinking water that they have fouled, are drowned in billions crossing rivers and fiords or simply wilt away from starvation. Those that reach the sea press on, swimming unthinkingly out into the Atlantic to perish. It is a mass hysteria; there is no turning back. These timid, retiring animals have lost all their natural sagacity. And all the time they keep breeding—litter follows litter.

Now it was discovered that sometimes these migrating lemmings reach isolated plateaus that are suitable to them and that parts of the swarm settle down there to colonize the territory. There seemed to be nothing to prevent them from establishing themselves successfully for all time. But here came a big surprise, for it was found that always in a few years these colonies became totally extinct. Why, the investigators asked themselves, should these lemmings suddenly start to breed so madly and why should all those that emigrated either commit mass suicide or just die out, while those few left behind survived and in time gave rise to another swarm? And while looking for an answer to this question they found the first and perhaps the most important key to the whole mystery of animal movements.



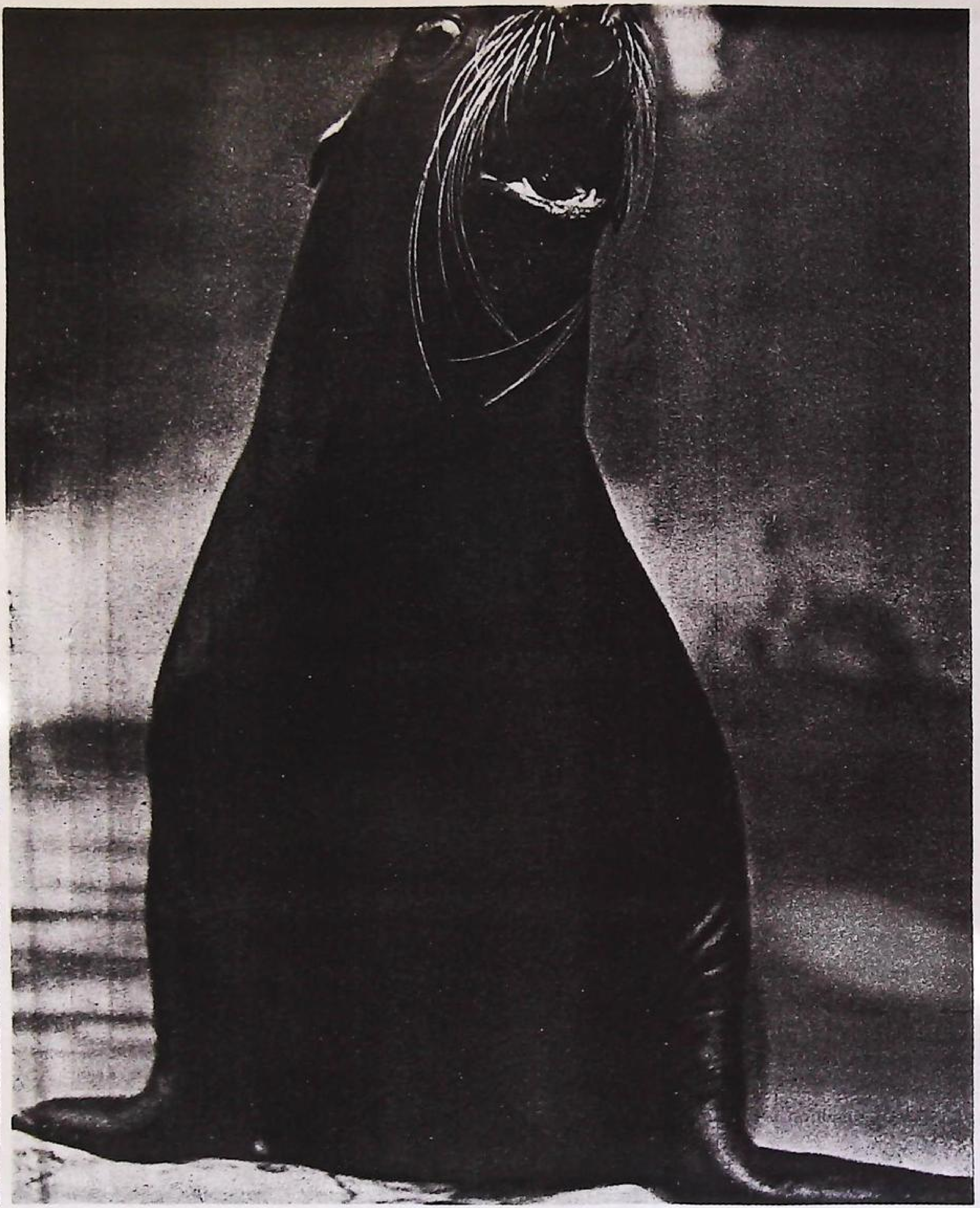
The author, once accused of inciting newts to migrate, is still interested in such phenomena.

During their annual breeding season, seals migrate to the ice floes north of Iceland, a habit that works to the advantage of seal hunters.

YLLA

An important part of the investigations into this fascinating problem called for anatomical examinations of the animals themselves at all phases of the swarming. It was discovered that the internal sexual organs, or gonads, underwent extraordinary changes. What is more, the whole animal changed anatomically in accordance with its temperament and its increased vigor. Puzzling over this further discovery, the investigators suggested, and later proved in a most dramatic manner, that something the lemmings had eaten had changed their whole metabolism. They surmised that this unknown substance must be indestructible and stored in the body of the lemmings, whence it could be transmitted to their offspring and even to the animals that fed upon them. For a time, this substance remained a scientific *X* which exactly fitted all the known facts of the case. Then vitamins were discovered.

At once it was recognized that these temporarily in-



those that emigrated either commit mass suicide or just die out, while those few left behind survived and in time gave rise to another swarm? And while looking for an answer to this question they found the first and perhaps the most important key to the whole mystery of animal movements.

An important part of the investigations into this fascinating problem called for anatomical examinations of the animals themselves at all phases of the swarming. It was discovered that the internal sexual organs, or gonads, underwent extraordinary changes. What is more, the whole animal changed anatomically in accordance with its temperament and its increased vigor. Puzzling over this further discovery, the investigators suggested, and later proved in a most dramatic manner, that something the lemmings had eaten had changed their whole metabolism. They surmised that this unknown substance must be indestructible and stored in the body of the lemmings, whence it could be transmitted to their offspring and even to the animals that fed upon them. For a time, this substance remained a scientific *X* which exactly fitted all the known facts of the case. Then vitamins were discovered.

At once it was recognized that these temporarily indestructible substances exactly fitted the requirements of *X*. A search began for a source of some such vitamin, and it was not long before one was found in the tender lichens and other greenery that lay dormant under the winter snows and which burst into a riot of growth with the arrival of the spring. This vitamin was found to be in a minute green alga which, together with a fungus, forms the lichen so prominent in the flora of those regions. The lemmings feed on this lichen after their long hibernation, and the vitamin is stored in their bodies. Furthermore, it was later discovered that a hormone secreted by the anterior pituitary gland does, in fact, stimulate the gonads, thus producing increased fertility. Here, then, was a concrete and understandable cause of this phenomenon, and one which later led also to an explanation of its effects.

The source of this exceptional, almost artificial stimulant to breeding activity was left behind when the animals emigrated. They carried the vitamin with them in their bodies. In the case of those that found a haven in some suitable environment, it became disseminated through overuse and, there being no supply at hand to replenish it, it became less and less potent. The animals lost their fertility and, being utterly exhausted, died out, for this stimulant is like a drug that squeezes the last ounce of vitality out of the animals. This is the most vital fact, and one that unlocks further doors leading to the secret not only of emigration but also of migration. This may be the primary cause of all mass emigrations and of their terrible conclusions, though the stimulant need not necessarily be the same. The mass hysteria and mental instability, as well as the craze *(Continued on Page 80)*

nental drift.

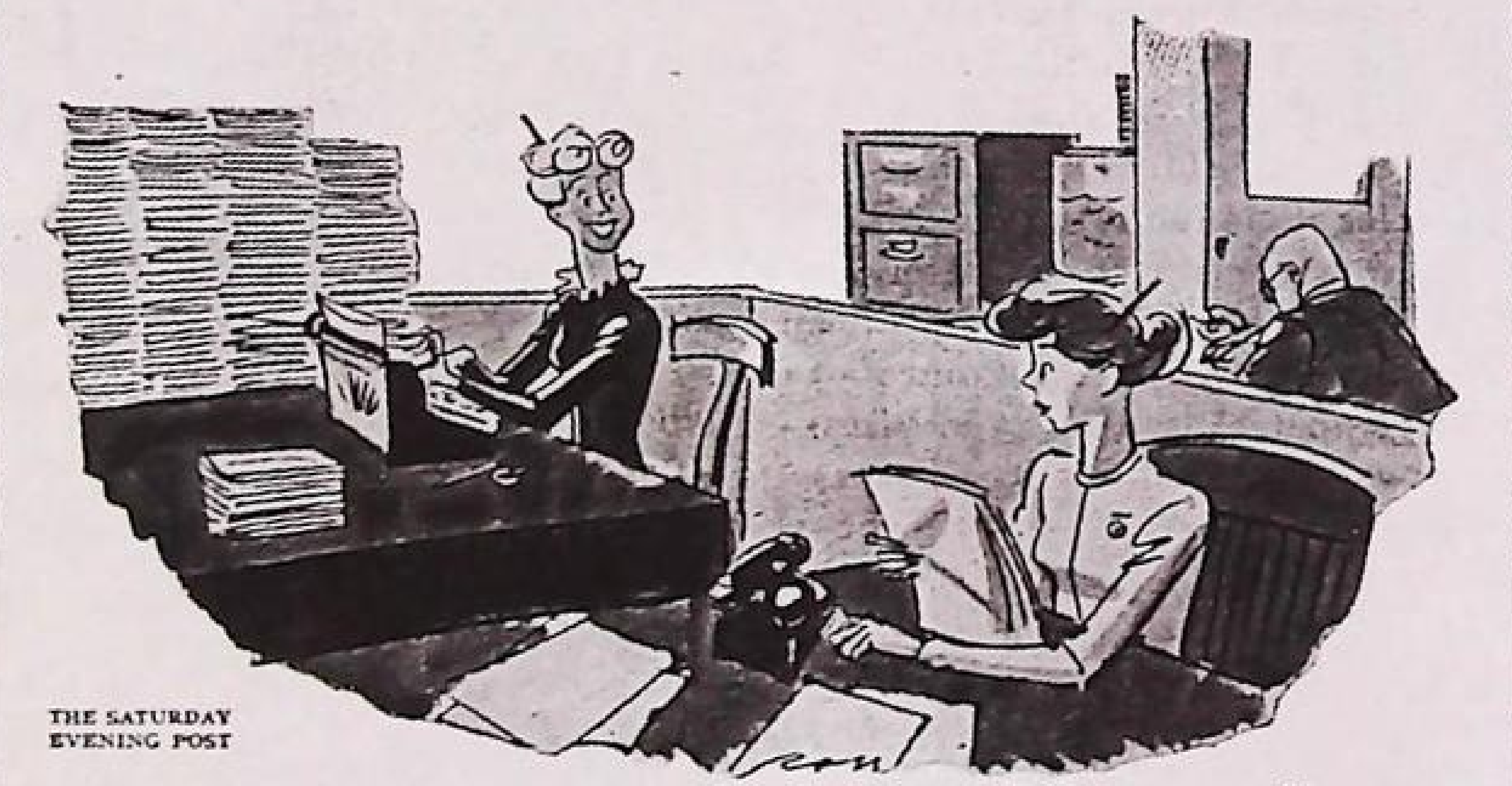
Eels spend many years of seemingly contented life in the ponds, ditches and rivers of Europe and North America, where they are dark green in color and fairly active. Then all of a sudden their color changes to metallic silver and their shape to a more streamlined pattern, while a radical transformation takes place in their internal anatomy. Then, leaving their safe homes, they go down the rivers to the sea and head out into the Atlantic. Those from Europe head west, those from America head southeast, and both swim onward without pause until they meet over a great deep in the Atlantic Ocean south of Bermuda, where they sink down and disappear forever.

Later, an eruption of tiny, transparent, threadlike creatures with bulging black eyes comes welling up to the surface and, spreading out like an ever-expanding mushroom, streams off in two groups, one to the east and one to the northwest. Those going east keep swimming for three years while they change their shape, until they reach the shores of Europe as the well-known elvers. Those going west also change, but they arrive sooner at the American coast. Both shoals immediately start up the rivers and penetrate farther and farther, until they reach the abodes whence their parents started out. What is more, those that go to Europe are invariably the European species of eel, and those that go to America are just as invariably the American species.

of the near-by land on either side of the crack, they would have been called upon to make longer and longer journeys to their breeding grounds as the continents drifted apart, until it eventually became unfeasible for them to make the trip every year. Thus they would have to spend a longer rest period in fresh water and go less frequently to breed. By carrying this process to an extreme, moreover, it will be seen that their behavior would eventually become that which actually obtains among them today, whereby they spend their whole lives resting and storing up energy for their great adventure and then, when fully mature, set out to the ancestral grounds, now thousands of miles away, where the eggs are laid.

The effort now entailed so entirely exhausts them that they never survive or return. Their behavior is, in fact, strong supporting evidence for the astonishing theories of Wegener.

Thus we see that the mystery of migration is a complex problem. It is a varied process, probably of many diverse origins, now maintained by many different recurrent causes and unified only by its object and result—namely, survival. It is a major life process of the whole animal world, and without it a great part of our earth's animal life would probably have long since become extinct. It will remain forever an impressive spectacle to watch, but there is nothing more mysterious about it than about any of the other great processes of nature.



"Oh, it's fun; every envelope's got a different name."

THE ONLY "PEACE TALK" THAT COUNTS

The talk of our guns is the only kind of talk that will get this war over soon . . . so Yale & Towne are staying with their No. 1 job: turning out precision parts for guns, Radar, Corsair Navy Fighters, and locks for tanks, jeeps and other military purposes.

That is why your hardware dealer often cannot supply the YALE Lock you ask for.

It is better—don't you agree?—to keep feeding that equipment to the front . . . so that, right up to the end, our boys will be giving the enemy the kind of "argument" they can understand!

112 Parts for Corsair Navy Fighter

Radar Parts

Locks for Tanks

Why Few YALE Locks Are Reaching Your Dealer

Yale & Towne are using available metal, men and equipment to produce parts for
- 57-mm. anti-tank guns
- "CORSAIR" Famous Navy Fighter
- Radar
- Pumps for superchargers
- Bomb shackles

locks for ammunition chests, torpedo boxes, tanks and jeeps; pumps for refueling trucks.

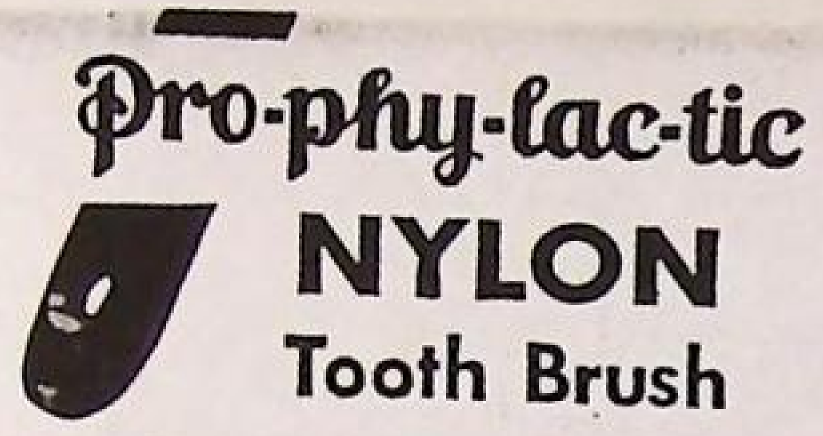
For Wartime Necessities—Shop At Your Local Hardware Store
You can count on your hardware dealer for wartime shopping advice. Despite shortages, he still carries many products you need for home, office or workshop . . . can suggest substitutes when necessary . . . will help you keep things in good repair.

TRADE YALE MARK THE LOCKS RECOMMENDED BY THE WORLD'S LEADING LOCK EXPERTS

THE YALE & TOWNE MFG. CO., STAMFORD, CONN., U. S. A.

Makers of the famous Yale Line of Locks, Door Closers, Hardware, Pumps, Hoists and Industrial Trucks.

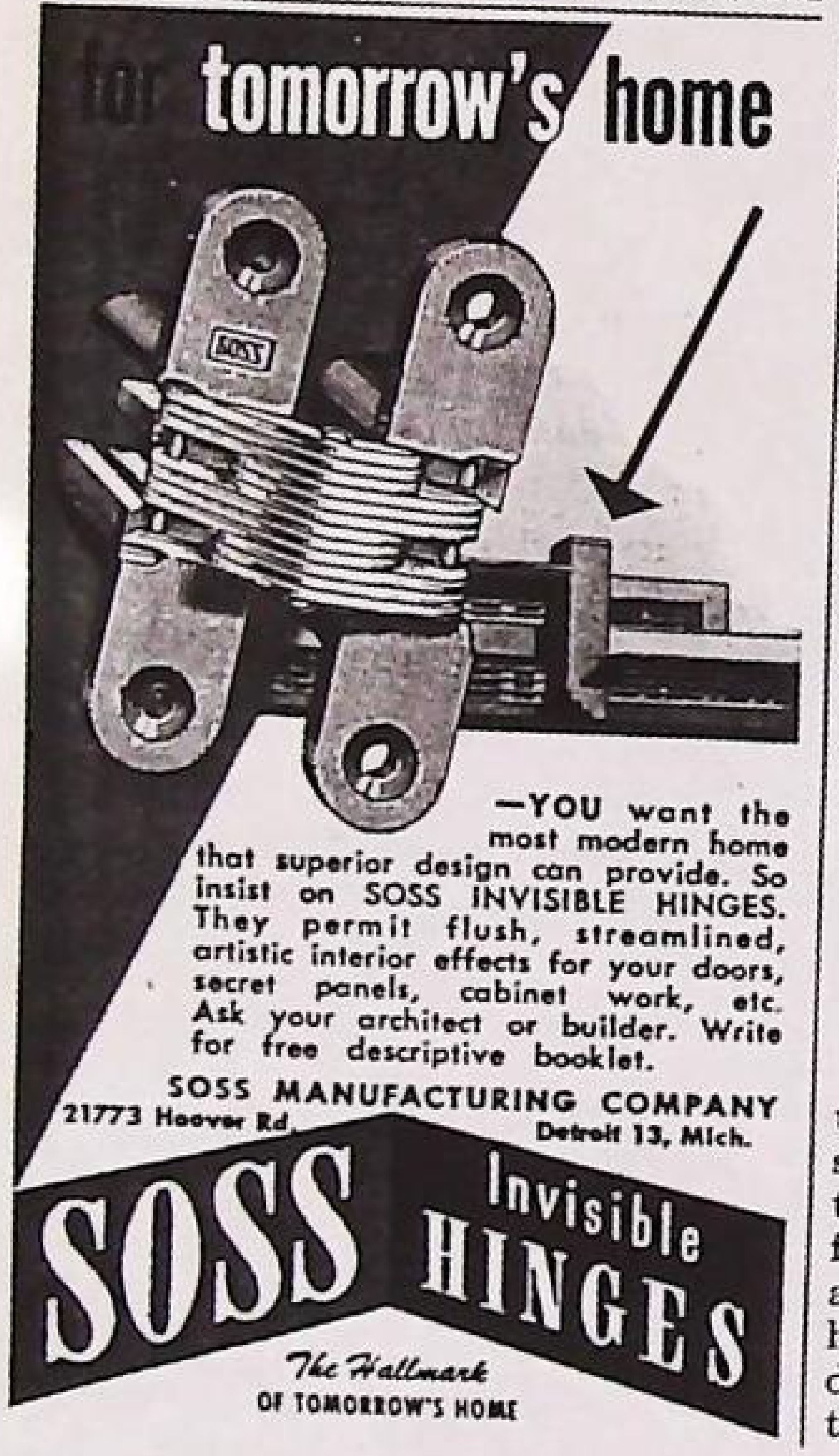
SHOP AT YOUR LOCAL HARDWARE STORE



Pro-phy-lac-tic
NYLON
Tooth Brush

VOSS WASHERS
FOR "V" DAY
Voss Washers have stood the wartime test of Quality, Safety and Dependability. There'll be Voss Washers again come Victory. Remember—only Voss has the Electro-Safe Wringer.
Genuine Voss Repair Parts Are Available
VOSS BROS. MFG. CO., Davenport, Iowa

Burpee's GIANT Pansies
Sow this summer, for largest blooms early next spring. All best colors, mixed, 35c-pkt. seeds free, with instructions, to try. Send stamp for postage.
35¢ PACKET FREE
W. ATLEE BURPEE CO.
Philadelphia 32, Pa. or Clinton, Iowa



for tomorrow's home
—YOU want the most modern home that superior design can provide. So insist on SOSS INVISIBLE HINGES. They permit flush, streamlined, artistic interior effects for your doors, secret panels, cabinet work, etc. Ask your architect or builder. Write for free descriptive booklet.
SOSS MANUFACTURING COMPANY
21773 Hoover Rd. Detroit 13, Mich.
SOSS Invisible HINGES
The Hallmark OF TOMORROW'S HOME

[illegible] and pitched our pup tents in a grape vineyard. We stayed there for about a month, but we didn't go into Naples much. For we had no trouble finding girls in our bivouac town to talk to and dance with. It seemed as if every kid in the place was hustling dates for some dame. They had that threadbare line which started out, "You look for girls? We know where they are." You were supposed to pay the kids a dime for their information, but the military police were death on that kind of relaxation. They kept throwing the places that were too interesting off limits.

No uniform's imposed upon the brain.
Thus, regiments of individual minds
Twirl on axes fixed at random set,
Each one thinking everything it finds
Another cause for egoistic fret;
Angry whirlwinds shakily astride
Nightmares run on oval carrousels,
Which, the match of self-conceit applied,
Burst out into microscopic hells.
All this furious motion night and day
Would seem enough to blow the tents away.

Guadalcanal, April 10, 1944.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

After we got acquainted with the people who owned the farm on which we were bivouacked, it was nicer and more fun at the camp than in town. The owner had been growing grapes for wine making for years. The grapes he grew were bigger and juicier than any grapes I'd ever seen. But he was economical with his land. In between the vines were rows of apple trees on which a strange sweet kind of apple grew. If a leaf fell from a tree, it was picked up right away, and the ground was turned over constantly.

We had a lot of soap and extra clothes and towels, and with Ralph Restaino, an Italian-American in my company, I dropped in to visit at the farmhouse, and we made the owner and his wife presents of some of our extra stuff. The old man brought out wine, cheese, apples, grapes and plums, and invited us to dinner. He made a party out of it. He killed a lamb, and we had lamb steak fried in olive oil, and tomatoes with salad dressing.

When we went to church with the vineyard owner, we found a lot of our owned the vineyard came running when they saw us filling our foxholes. And when we told them we were going, they began to cry, and said, "No! No! No!" over and over again. The younger sister turned and ran away. Soon she was back with a basket of grapes and other fruit, and put it into our truck. Ralph said something to her in Italian. I didn't understand. The family just stood there looking after us until we rolled out of sight.

We went through Naples and headed for Venafro, about forty-five miles away. When we got there, we found that we were going to be sent up on top of a mountain—Mt. Comedio—to hold it. The trucks stopped. We took full packs, extra socks, two blankets, overcoats and shelter halves, and started single file up the mountain, with the mules who were hauling our rations. It was a bare, bald mountain covered with jagged rocks and gullies, pockmarked with holes and slashed with ditches.

Rain was coming down as if it were spraying out of fire hydrants, and it was up the mountain. The men throwing away packs and food, and kneeling down to drink the muddy water in the ruts. It began to sleet and snow and turn cold. The cold made the mud stiffer and tougher to plod through, but even that was better than falling over the cliffs, as some of the men were doing. Fortunately, none of those who fell were seriously hurt—which was a miracle, because the rocks on which they fell were sharp and wicked-looking. We could see clouds down below us, and it was queer-looking up there—like the surface of the moon. We were all just about as bushed as men could be. I lay down in a gully on the top of the mountain and took off my pants and socks and wrung them out.

Then the word came, "Let's go." Men were dropping out at the side of the road—most of them were the replacements we had drawn to fill our ranks. Finally, we came to a big open spot littered with bodies of the dead. Some of them were puffed up and white in the rain, while others had turned black. We kept on going until we hit Dead Man's Gulch, where we found twenty-two dead Germans and three dead Americans. The battle a week before had boiled up through the gulch, and the casualties had been so heavy that there weren't enough men left on either side to dig graves. The smell of death was heavy there.

It was a lucky thing we couldn't smell the things that lay in wait for us just around a corner of time, such as the Battle of San Pietro, which was to be bloody, desperate and bitter.

Editor's Note—This is the third of a series of five articles by Sergeant Kelly and Mr. Martin. The fourth will appear next week.

THE MYSTERY OF MIGRATION

(Continued from Page 13)

to breed often noted among emigrating swarms of animals, are probably due to this stimulant, but it is a simple lack of food or water that actually prompts the animals to start the trek. Once moving, however, they cannot stop, nor do they do so until some tragedy overpowers them.

Migration is an altogether different matter. It is an orderly and regular behavior pattern, and yet the very causes that induce it may be the same as those which prompt this mass suicide and exhaustion, as we shall see. The difference between emigration and migration is simple to comprehend. Whereas emigration always leads to the disappearance of the animals, in migration there is always a return to the point of origin of the journey, either by the very individuals that set out or at least by their offspring

A great many different kinds of animals migrate, and every year more and more are added to the list of known migrants. The practice may be far more prevalent than we at present believe, and may, in the end, be found to be almost universal. The degree of movement that it entails, however, varies greatly. Elephants have been shown to perform slow migrations for breeding purposes that take nearly ten years to complete, during which time the cows never see the bulls. Troops of some kinds of South

(Continued on Page 82)

Want to park your car behind it?

Every day hundreds of cars end up right behind the 8-ball because their owners neglected them. These cars should have been good

McQUAY-NORRIS ALTINIZED ENGINEERED SET PISTON RINGS are designed and made to give new life to old and worn motors. There's a set of these rings engineered specifically for your own particular make and model of car to correct your

(Continued from Page 80)

American monkeys migrate back and forth every few weeks between two areas of forest—a regular alternation that goes on throughout the years, but which never transgresses the boundaries of the two areas.

One of the most astonishing sights in the world is the migration of land crabs in Jamaica. These creatures dwell in crevices among rocks all over the island, but once a year they all descend at the same time to certain shelving beaches for breeding purposes. They do this simply by following the straightest line possible, so that they scramble many unnecessary miles over obstacles, even houses, that happen to be in their path. The females carry their eggs with them. Each contains a fully developed larva, which is a minute, shrimp-formed creature that can live only in water, and it is to release these in the sea by the bursting of the eggs that the crabs make their weary seasonal journey.

Perhaps the most extraordinary manner of migration is found among the lowly group of insects that includes the aphids, or green flies, so well known to fruitgrowers. There is a species that spends half the year on apple trees and the other half on the stems of grasses. These aphids happen to be used by certain ants as we use cows. They are herded and protected by the ants, and, in return, allow themselves to be squeezed periodically, so that a honeylike fluid which exudes from their bodies may be eaten by the ants. Now, the ants have discovered that the aphids have to migrate and, being solicitous of the welfare of their charges, they have the extraordinary intelligence actually to carry them down from the apple trees and to place them on the grass stems or to take them from the grass up to the apple trees, as the season of the year may demand.

The normal seasonal migrations of many animals may often be referred to as plagues, and some may indeed provide rather startling aspects. I remember once in my youth being accused of introducing several hundred newts into the family domain after dinner, when, in point of fact, I was safely in bed on the top floor of the house. The cause of the host of newts was simply the warm evening, which had prompted my family to leave some French windows open. Through these the amphibians had streamed on their way from hibernation to a near-by pond.

The Highway of the Frogs

the tops of the forest trees. They were traveling on the ground, and in a few moments the tent was covered with green-boned frogs, and when we went outside with a light, the whole world seemed filled with the same species, all traveling down to the river. A few nights later came a host of tiny yellow-and-brown fellows; a few days after, big brown frogs with spurs on their thumbs came hopping by. More than a dozen species went by in the space of as many days, each keeping to itself, and all going to the river. What is more, most of them returned within a month, headed back into the forests to spend the rest of the year.

Globe-Trotting Terns

In the circumpolar regions, vast herds of reindeer move south every fall, and north every spring. They travel in small parties, feeding as they go, but sometimes when the weather changes suddenly, they become jammed together in tremendous droves which travelers have described as covering the flat, barren ground as far as the eye can see. Solid masses of animals sometimes pass without cease for four or five days. Eventually, these vast aggregations break up into small parties again and spread out, for these are true seasonal migrations.

Almost every kind of animal migrates. Lawrence of Arabia speaks of meeting a mass of migrating poisonous snakes while advancing toward Mesopotamia with his Arabs during the last war. The snakes were so numerous and his army suffered so many more casualties from them than from the enemy that he was forced to retreat and make a long detour.

But the champion traveler of them all is probably the Arctic tern, a small, slender, white, gull-like bird with tapering wings and a forked tail. This species nests about the eastern and northern coasts of Canada as far north as Baffin Island and the northwestern shores of Greenland. Small, numbered metal bands have been attached to the legs of nestlings in Labrador and the grown birds recaptured a few months later at the mouth of the Niger River in West Africa and in Natal on the Indian Ocean coast of South Africa. The latter place is a distance of nearly 9000 miles from Labrador, and as these birds follow an erratic course and as it is unlikely that a sea bird would cross the Kalahari Desert of South Africa, it appears that this individual, retaken in Natal, must have covered well over 10,000 miles. Nor is that the complete picture, for the Arctic

Animal life, especially in the winter, must have been forced south into the subtropical regions. However, the best feeding grounds, most abundant in the vital breeding stimulants, must then, as now, have been just south of this great sheet of ice in the belt where the summer sun melted the snow, and animals must have flocked to that belt to breed. As the ice caps slowly shrank, this northward flocking of the animals slowly extended until the spring movement became a migration. When the distance became great enough, many birds, on setting out for the warm south to recuperate from the exertions of breeding, found the intermediate areas already fully populated by their own kind, and had to fly over these relatives and seek winter quarters in more southern areas, where they did not infringe the rights of their own kind.

The habit among other groups of animals is often of similar causation, though it may be of totally different origin and have altogether unlike results. For instance, the Jamaican land crabs migrate for the purpose of releasing their larvae from the eggs and perhaps for mating immediately afterward. The astonishing behavior of Atlantic eels, though also carried out for the purpose of breeding, falls into a class by itself, the causes of which are unknown, but for the origin of which there is a fascinating theoretical explanation. This is based on what is known as Wegener's theory of continental drift.

Eels spend many years of seemingly contented life in the ponds, ditches and rivers of Europe and North America, where they are dark green in color and fairly active. Then all of a sudden their color changes to metallic silver and their shape to a more streamlined pattern, while a radical transformation takes place in their internal anatomy. Then, leaving their safe homes, they go down the rivers to the sea and head out into the Atlantic. Those from Europe head west, those from America head southeast, and both swim onward without pause until they meet [illegible] Atlantic Ocean [illegible] they sink down [illegible]

[illegible] transparent, [illegible] black [illegible] surface and, [illegible] expanding [illegible] groups, [illegible] northwest. [illegible] for [illegible] their [illegible] shores of

Now, Wegener pointed out that the earth's crust is composed of two layers, the outer one being lighter and thinner, or less deep, than the oceans. Thus the continents are great concave rafts of this outer crust, resting on the second layer, like pieces of peel on a half-peeled orange. Wegener suggested that our earth originally had a complete skin of this outer layer, but that about half was lost by flying off into outer space and that the remainder then cracked up into big pieces and started to drift around to balance the earth, which was lopsided and wobbling. What is more, this scientist went on to show in a most ingenious manner that there is considerable evidence to support his theory.

He started by cutting out maps of the continents, and then, disregarding the oceans, he brought them together and showed that the east coast of North and South America fitted almost exactly into the west coast of Europe and Africa. The degree of junction is alarmingly perfect, as may be seen by the map. Wegener then fitted the other continents together almost equally well merely by bending them a little and swinging some of them round.

Now, should the eels have originated in the sea-filled crack between the Old and the New Worlds when they lay together, and have then developed the habit of spending their time between breeding season in the ponds and rivers of the near-by land on either side of the crack, they would have been called upon to make longer and longer journeys to their breeding grounds as the continents drifted apart, until it eventually became unfeasible for them to make the trip every year. Thus they would have to spend a longer rest period in fresh water and go less frequently to breed. By carrying this process to an extreme, moreover, it will be seen that their behavior would eventually become that which actually obtains among them today, whereby they spend their whole lives resting and storing up energy for their great adventure and then, when fully mature, set out to the ancestral grounds, now thousands of miles away, where the eggs are laid.

The effort now entailed so entirely exhausts them that they never survive or return. Their behavior is, in fact, strong supporting evidence for the astonishing theories of Wegener.

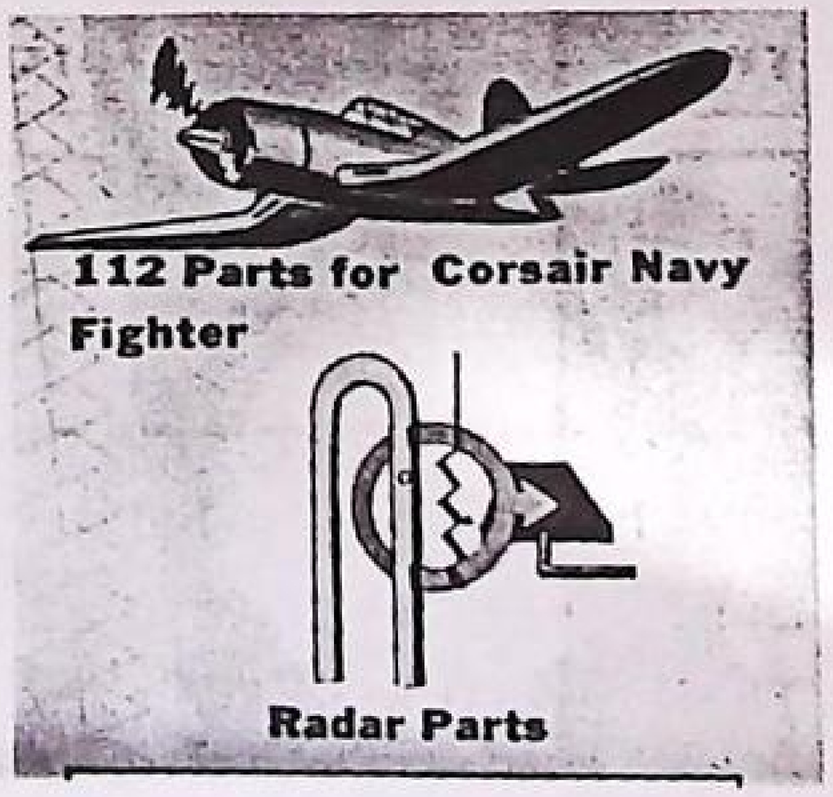
Thus we see that the mystery of migration is a complex problem. It is a varied process, probably of many diverse

THE ONLY "PEACE TALK" THAT COUNTS

The talk of our guns is the only kind of talk that will get this war over soon . . . so Yale & Towne are staying with their No. 1 job: turning out precision parts for guns, Radar, Corsair Navy Fighters, and locks for tanks, jeeps and other military purposes.

That is why your hardware dealer often cannot supply the YALE Lock you ask for.

It is better—don't you agree?—to keep feeding that equipment to the front . . . so that [illegible] on to the end,


112 Parts for Corsair Navy Fighter
Radar Parts

Want to park your car behind it?

Every day hundreds of cars end up right behind the 8-ball because their owners neglected them. These cars should have been good for many thousands of extra miles. Take your car to the repairman who installs McQuay-Norris Altinized Engineered Set Piston Rings and other parts. He'll give it the extra mileage and keep it from getting behind that old 8-ball.

McQUAY-NORRIS ALTINIZED ENGINEERED SET PISTON RINGS are designed and made to give new life to old and worn motors. There's a set of these rings engineered specifically for your own particular make and model of car to correct your motor's worn condition and make it last longer.

REMEMBER—
WAR BONDS IMPROVE WITH AGE
...CARS DON'T

McQUAY-NORRIS

PISTON RINGS • PISTONS • PINS • VALVES • BEARINGS • SLEEVES • PUMP PARTS
BOLTS • BUSHINGS • SILENT-U SHACKLES • WHEEL SUSPENSION PARTS

McQUAY-NORRIS
ALTINIZED
Engineered Set
PISTON RINGS
STEEL
Super-X
TIME TESTED
McQUAY NORRIS
AUTO PARTS

which exudes from their bodies may be eaten by the ants. Now, the ants have discovered that the aphids have to migrate and, being solicitous of the welfare of their charges, they have the extraordinary intelligence actually to carry them down from the apple trees and to place them on the grass stems or to take them from the grass up to the apple trees, as the season of the year may demand.

The normal seasonal migrations of many animals may often be referred to as plagues, and some may indeed provide rather startling aspects. I remember once in my youth being accused of introducing several hundred newts into the family domain after dinner, when, in point of fact, I was safely in bed on the top floor of the house. The cause of the host of newts was simply the warm evening, which had prompted my family to leave some French windows open. Through these the amphibians had streamed on their way from hibernation to a near-by pond.

The Highway of the Frogs

The seal trade is dependent upon a seasonal migration, the animals coming from the regions of Nova Zemlya, from the east coast of Greenland and from the channels west of the Hudson Bay inlet to breed on the edge of the ice floes north of Iceland and in the mouth of the St. Lawrence River. The males arrive first, and seize a piece of territory, which they defend against all comers with great savagery. Later, the females arrive and immediately give birth to the little fluffy "white coats" that they have carried since the last meeting with the males a year before. Immediately after delivering their offspring, they are claimed by the males and again inseminated; then the males leave. The mothers linger till the young can fend for themselves; then they, too, leave. For the rest of the year, the fur seals are scattered far and wide over a vast expanse of ocean.

It now appears that most frogs make seasonal migrations to breed. Many tree frogs not only descend to the ground but travel considerable distances to special ponds or rivers. We once had a forest camp in a narrow valley in Africa that led down to a large river. This turned out to be a highway of the frogs. At the beginning of the rainy season we were suddenly invaded one night by a host of rare frogs with green bones that live on

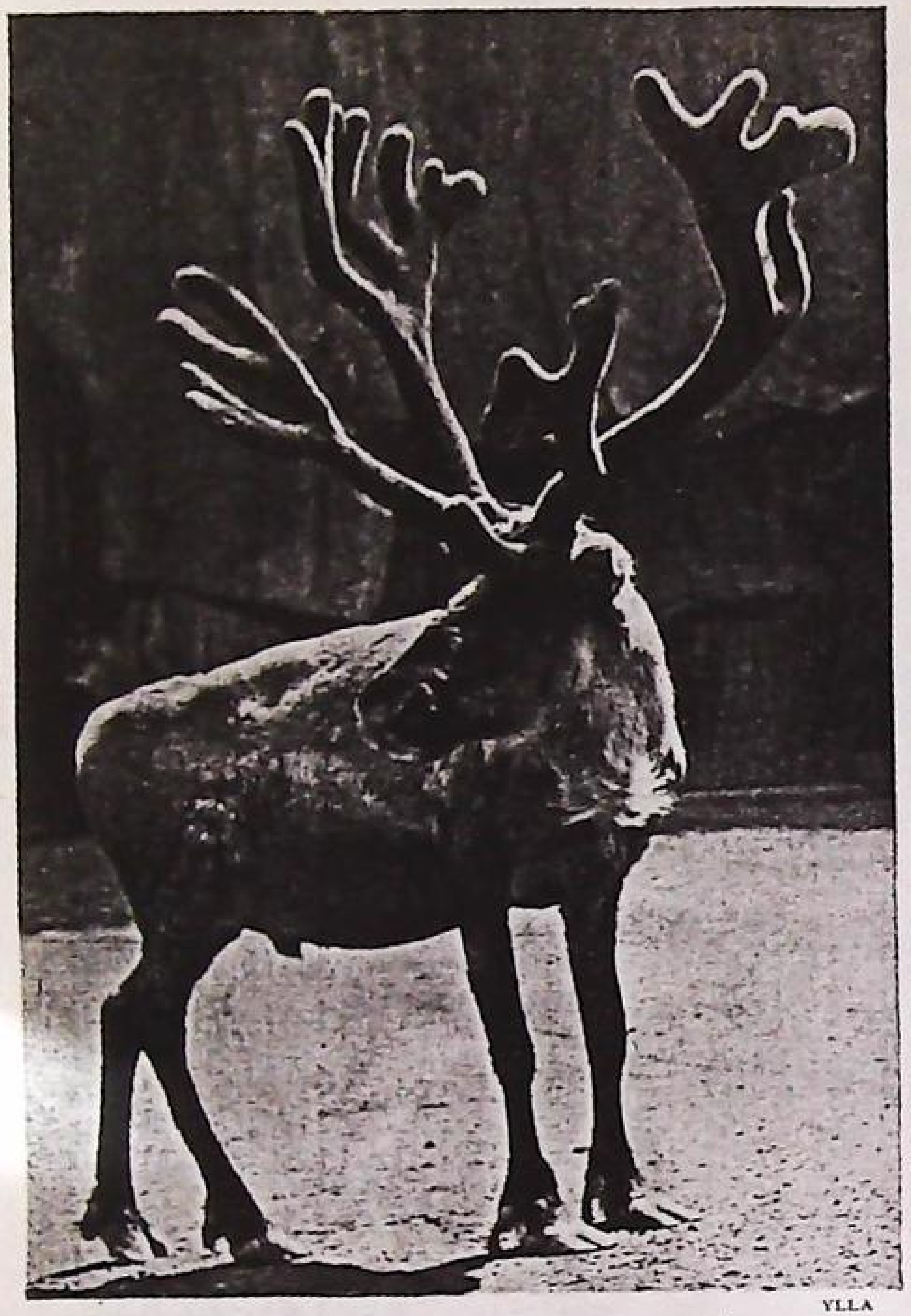
advancing toward Mesopotamia with his Arabs during the last war. The snakes were so numerous and his army suffered so many more casualties from them than from the enemy that he was forced to retreat and make a long detour.

But the champion traveler of them all is probably the Arctic tern, a small, slender, white, gull-like bird with tapering wings and a forked tail. This species nests about the eastern and northern coasts of Canada as far north as Baffin Island and the northwestern shores of Greenland. Small, numbered metal bands have been attached to the legs of nestlings in Labrador and the grown birds recaptured a few months later at the mouth of the Niger River in West Africa and in Natal on the Indian Ocean coast of South Africa. The latter place is a distance of nearly 9000 miles from Labrador, and as these birds follow an erratic course and as it is unlikely that a sea bird would cross the Kalahari Desert of South Africa, it appears that this individual, retaken in Natal, must have covered well over 10,000 miles. Nor is that the complete picture, for the Arctic tern is found in the Antarctic during our winter. Moreover, it is never met with on the eastern seaboard of either North or South America, while it is well known as a seasonal migrant up and down the western seaboard of both Europe and Africa. From this it has been inferred that this species migrates from Arctic America across the North Atlantic to Europe, thence down the coast past Africa to the Antarctic Ocean, and back up the same route the following spring—a distance, in all, of about 24,000 miles, or almost equivalent to the total circumference of the earth.

Why should birds perform these prodigious feats? Why should animals migrate at all, and what prompts them to do so? The only answer to this question that seems plausible is the suggestion that the breeding stimulant which was discovered to be the cause of the lemmings' increased fertility is found in the young vegetation—and in the insects that feed upon that vegetation—in the northlands freed from the blanket of winter snow by the warm spring sun. The birds crave this vitamin like a drug.

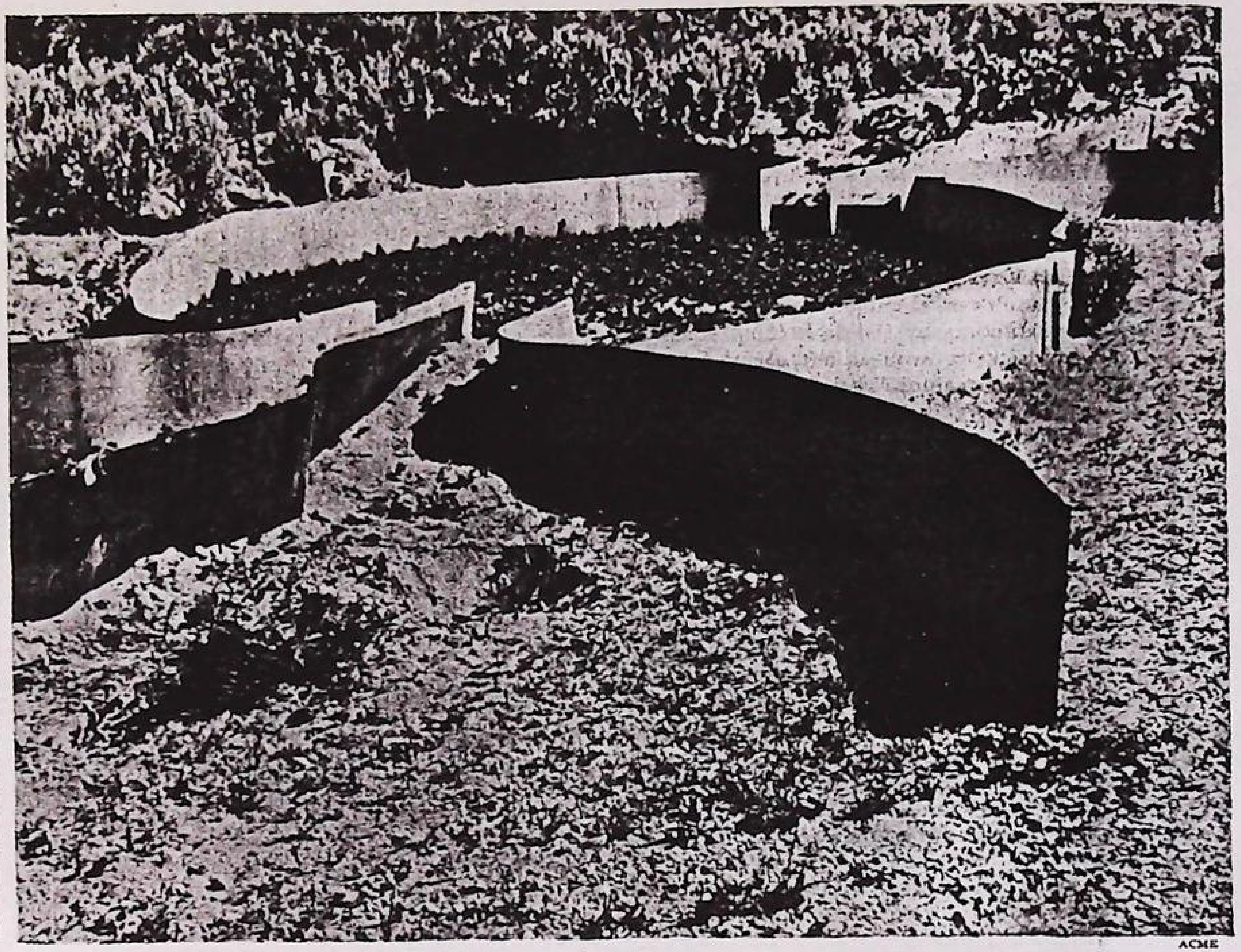
It is known that in comparatively recent geological times the earth passed through what has been called an Ice Age. The polar ice caps were tremendously enlarged, extending south in North America as far as the state of Kentucky

MAGAZINE: THE SATURDAY EVENING POST
DATE: 15 JULY 1944, VOL. 216, #3
PAGES: 12-13, 80, 82-83
ARTICLE: THE MYSTERY OF MIGRATION
AUTHOR: IVAN T. SANDERSON



YLLA

Male reindeer. In circumpolar regions, these animals move south in the fall, north in spring.



ACME

Here is one means of fighting migrant swarms of grasshoppers: Build traps across their path, spread poison inside the traps.

The Mystery of Migration

A well-known naturalist tells some astonishing facts and theories about a phenomenon that has fascinated man since the days of ancient Egypt.

By IVAN T. SANDERSON

WHY does one bird fly from the Arctic to the Antarctic and back again every year—a distance almost equal to that of the earth's circumference—while another spends its whole life around a small copse, never venturing more than a few yards beyond its confines? Why do birds set out from New Zealand across hundreds of miles of landless ocean and, after spending a few months in Australia, fly all the way back again? How do golden plover from

It took many years to convince people otherwise, as is demonstrated by quite recent testimony asserting that swallows were actually found in cakes of mud.

After modern scientific investigation had shown that the birds which disappear from northern climes in the fall go to the tropics, and that migration is a natural habit common to a great part of the animal world, a confusion of quite another kind arose. All over the world, men had from time to time encountered vast armies of animals advancing across the face of the earth in countless millions, often without apparent cause. Many of these mass movements were of such proportions as seriously to interfere with man's way

Other mass movements, though less frequent, are almost as well known. In the north of Canada and in Norway, vast hosts of little, almost tailless, ratlike animals known as lemmings, pour down from the barren uplands from time to time and, after crossing the coastal plains, plunge into the sea and disappear. In South Africa, herds of delicate little antelopes known as springbok, pressed shoulder to shoulder and reaching in all directions as far as the eye can see, suddenly

YLLA

Male reindeer. In circumpolar regions, these animals move south in the fall, north in spring.

ACME

Here is one means of fighting migrant swarms of grasshoppers: Build traps across their path, spread poison inside the traps.

The Mystery of Migration

By IVAN T. SANDERSON

A well-known naturalist tells some astonishing facts and theories about a phenomenon that has fascinated man since the days of ancient Egypt.

WHY does one bird fly from the Arctic to the Antarctic and back again every year—a distance almost equal to that of the earth's circumference—while another spends its whole life around a small copse, never venturing more than a few yards beyond its confines? Why do birds set out from New Zealand across hundreds of miles of landless ocean and, after spending a few months in Australia, fly all the way back again? How do golden plover from Alaska find their way every year to the tiny islands of Hawaii in the limitless Pacific? What induces eels, after years of complacent puttering in European ponds and streams, to change their color, go down to the sea. and swim thousands of miles across the Atlantic to lay their eggs; and, still more baffling, why should their tiny, fragile offspring spend three years struggling back along the same hazardous path while billions drop by the wayside?

The whole business of migration is one gigantic question—one of the greatest in nature. It is even a question as to whether we know the answer, for we cannot be sure that all the incredible facts we have now gathered about this extraordinary phenomenon add up to an explanation. The migration of animals has been observed by man for thousands of years. Early hieroglyphic writings of ancient Egypt record the seasonal arrival of the cranes, and the Greeks frequently chirrup in their odes about the sudden comings and goings of the swallows. Ancient Indian literature notes the disappearance of many creatures at the onset of the summer heat, and the Romans added their apparently logical, but totally inaccurate, explanations of these periodic disappearances of wild life.

The Romans started many fallacies about migration—fallacies which persisted until recent times, and even still persist in out-of-the-way places. The ancients had a simple, peasant understanding of nature, but the Romans, and, after them, our own ancestors, with a growing interest in the complexities of existence, resorted to quite unnecessarily fantastic interpretations of what they saw. Before the rebirth of science two centuries ago, the western world still believed that swallows hibernated in the mud at the bottom of lakes. It took many years to convince people otherwise, as is demonstrated by quite recent testimony asserting that swallows were actually found in cakes of mud.

After modern scientific investigation had shown that the birds which disappear from northern climes in the fall go to the tropics, and that migration is a natural habit common to a great part of the animal world, a confusion of quite another kind arose. All over the world, men had from time to time encountered vast armies of animals advancing across the face of the earth in countless millions, often without apparent cause. Many of these mass movements were of such proportions as seriously to interfere with man's way of life.

The commonest example is probably the locust, a perennial scourge in many warmer lands, which has alarmed and mystified humanity since the dawn of history. One swarm which was scientifically investigated in the Red Sea covered an area of 2000 square miles and the estimated weight of the insects that composed it—worked out at an average of one sixteenth of an ounce per insect—amounted to 42,850,000,000 tons. Yet another, even larger swarm passed over exactly the same route next day, the combined swarms said to have totaled more than the weight of Manhattan Island above sea level.

N. Y. PUBLIC LIBRARY

The lemming suddenly leaves home, jumps into the sea, drowns. Why? Something he ate.

Other mass movements, though less frequent, are almost as well known. In the north of Canada and in Norway, vast hosts of little, almost tailless, ratlike animals known as lemmings, pour down from the barren uplands from time to time and, after crossing the coastal plains, plunge into the sea and disappear. In South Africa, herds of delicate little antelopes known as springbok, pressed shoulder to shoulder and reaching in all directions as far as the eye can see, suddenly make their appearance and likewise plunge to their destruction in the sea. These unexpected eruptions of animal life occur in almost every country. I once walked for an hour through a continuous carpet of little hopping frogs in the grass fields of West Africa, and, while living in the jungles of South America, we became used to a never-ending succession of swarms of different insects, each lasting but a few hours or a few days. If you refer to back issues of the daily papers, you will see that hardly a summer season passes without some swarm of insects being reported from one part or another of greater New York. Last year, Brooklyn had two—first it was green flies, that appeared from nowhere; and then it was huge cockroaches with faces like Tojo, that appeared out of drains.

Such phenomenal appearances of animals should properly be described as emigrations. They arise from different causes, follow a different course and end in a manner that is absolutely contrary to that of migration. The difference is between life and death, for migration is designed to make possible the continuation of the species, while emigration invariably ends in total extinction of the hordes. Emigration is, in fact, mass suicide. Yet there are things in common between these two contrary marvels—features that must be understood before any attempt to explain migration can be made

Scientists had long noted a certain periodicity in the occurrence of the Norwegian "lemming years," as they are called, and while they were investigating this fact, several most unexpected and, at first, inexplicable things came to light. The lemmings live in distinct colonies on barren mountain uplands above the tree line, where the vegetation is composed of stunted herbage, grasses and lichens. The woods below are inhabited by another kind of lemming, and the species keep strictly to their own territory.

Every so many years a great increase is noted in the number of lemmings in one of the colonies, and concurrent with this increase the little animals, which are usually the timidest of creatures, become rather bold and fearless. They begin to produce larger litters of young at shorter intervals and throughout a longer period of the year. As a result, the whole population increases progressively, but, strangely enough, surrounding colonies do not do so; nor do the woodland lemmings close by. Then another most unexpected thing occurs.

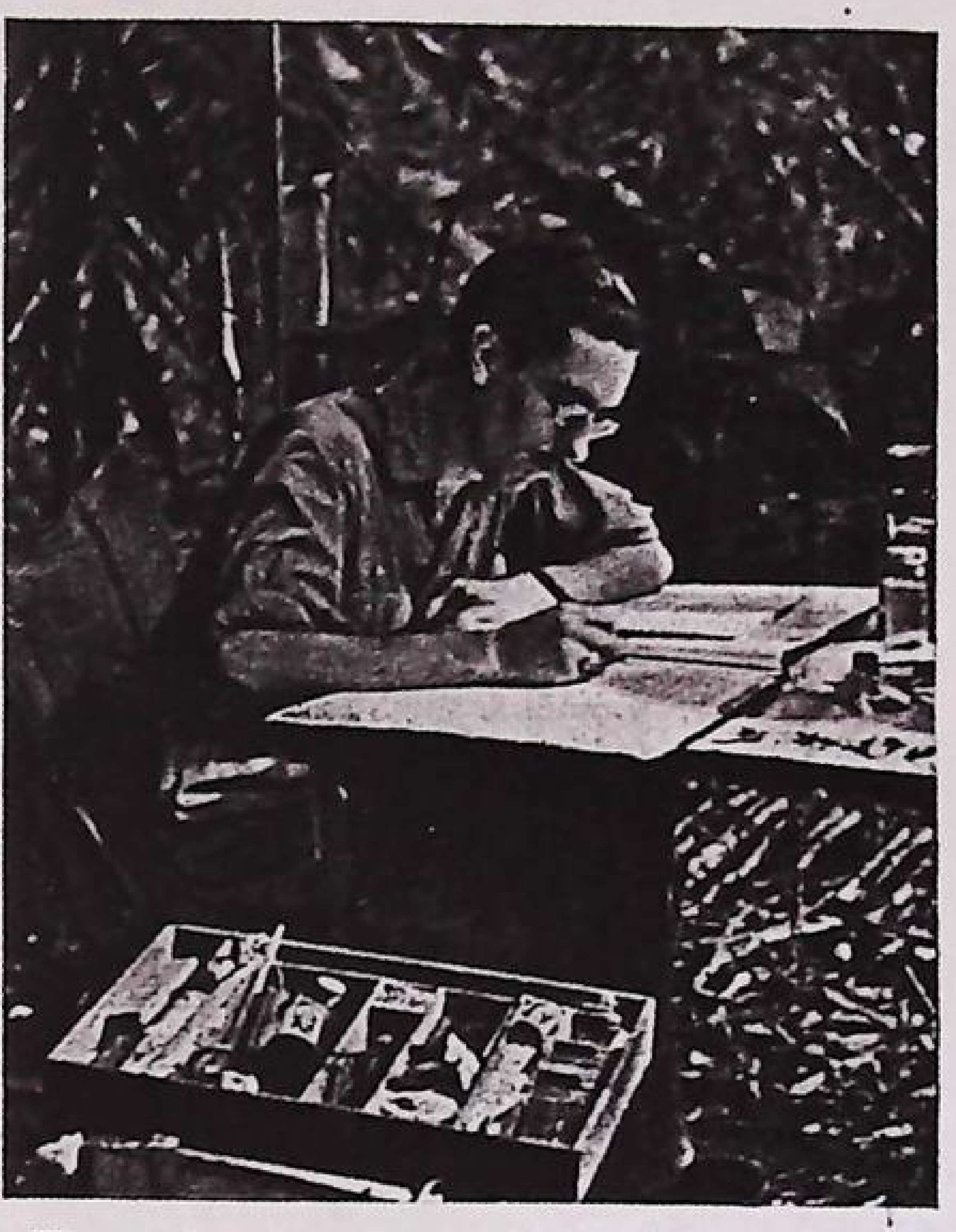
The animals that prey on the lemmings also begin to increase in numbers—owls, martens, weasels and hawks—and they, too, become bolder and more voracious. The whole process goes on until there is hardly standing room for the animals, when the multitudes begin to spill over into the woodlands—a land quite unsuited to the species. The expanding colony never invades the territory of surrounding lemmings of their own kind; they only move into that of the wood lemmings, and once the dam has burst, the hosts pour forth and down the mountainside, followed by swarms of enemies that prey on them ceaselessly. Then on they go, not in columns, but as a vast moving blanket that creeps across the earth.

The lemmings may take two or three years to reach the western coast of Norway, according to the territory in which the swarm originates, while all the time they are devoured by the thousands, die in millions from a fever contracted by drinking water that they have fouled, are drowned in billions crossing rivers and fiords or simply wilt away from starvation. Those that reach the sea press on, swimming unthinkingly out into the Atlantic to perish. It is a mass hysteria; there is no turning back. These timid, retiring animals have lost all their natural sagacity. And all the time they keep breeding—litter follows litter.

Now it was discovered that sometimes these migrating lemmings reach isolated plateaus that are suitable to them and that parts of the swarm settle down there to colonize the territory. There seemed to be nothing to prevent them from establishing themselves successfully for all time. But here came a big surprise, for it was found that always in a few years these colonies became totally extinct. Why, the investigators asked themselves, should these lemmings suddenly start to breed so madly and why should all those that emigrated either commit mass suicide or just die out, while those few left behind survived and in time gave rise to another swarm? And while looking for an answer to this question they found the first and perhaps the most important key to the whole mystery of animal movements.

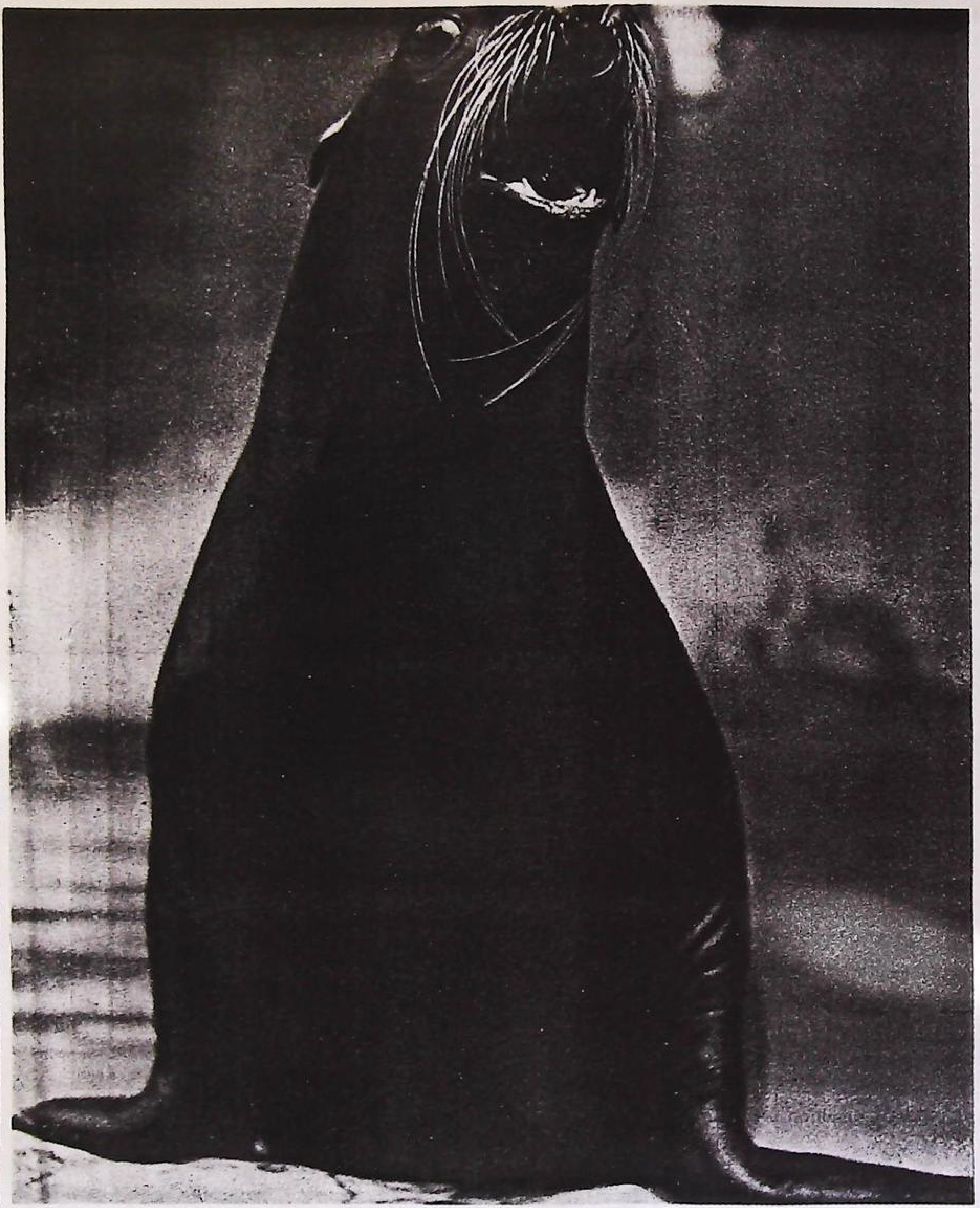
During their annual breeding season, seals migrate to the ice floes north of Iceland, a habit that works to the advantage of seal hunters.

YLLA


The author, once accused of inciting newts to migrate, is still interested in such phenomena.

An important part of the investigations into this fascinating problem called for anatomical examinations of the animals themselves at all phases of the swarming. It was discovered that the internal sexual organs, or gonads, underwent extraordinary changes. What is more, the whole animal changed anatomically in accordance with its temperament and its increased vigor. Puzzling over this further discovery, the investigators suggested, and later proved in a most dramatic manner, that something the lemmings had eaten had changed their whole metabolism. They surmised that this unknown substance must be indestructible and stored in the body of the lemmings, whence it could be transmitted to their offspring and even to the animals that fed upon them. For a time, this substance remained a scientific *X* which exactly fitted all the known facts of the case. Then vitamins were discovered.

At once it was recognized that these temporarily in-



those that emigrated either commit mass suicide or just die out, while those few left behind survived and in time gave rise to another swarm? And while looking for an answer to this question they found the first and perhaps the most important key to the whole mystery of animal movements.

An important part of the investigations into this fascinating problem called for anatomical examinations of the animals themselves at all phases of the swarming. It was discovered that the internal sexual organs, or gonads, underwent extraordinary changes. What is more, the whole animal changed anatomically in accordance with its temperament and its increased vigor. Puzzling over this further discovery, the investigators suggested, and later proved in a most dramatic manner, that something the lemmings had eaten had changed their whole metabolism. They surmised that this unknown substance must be indestructible and stored in the body of the lemmings, whence it could be transmitted to their offspring and even to the animals that fed upon them. For a time, this substance remained a scientific *X* which exactly fitted all the known facts of the case. Then vitamins were discovered.

At once it was recognized that these temporarily indestructible substances exactly fitted the requirements of *X*. A search began for a source of some such vitamin, and it was not long before one was found in the tender lichens and other greenery that lay dormant under the winter snows and which burst into a riot of growth with the arrival of the spring. This vitamin was found to be in a minute green alga which, together with a fungus, forms the lichen so prominent in the flora of those regions. The lemmings feed on this lichen after their long hibernation, and the vitamin is stored in their bodies. Furthermore, it was later discovered that a hormone secreted by the anterior pituitary gland does, in fact, stimulate the gonads, thus producing increased fertility. Here, then, was a concrete and understandable cause of this phenomenon, and one which later led also to an explanation of its effects.

The source of this exceptional, almost artificial stimulant to breeding activity was left behind when the animals emigrated. They carried the vitamin with them in their bodies. In the case of those that found a haven in some suitable environment, it became disseminated through overuse and, there being no supply at hand to replenish it, it became less and less potent. The animals lost their fertility and, being utterly exhausted, died out, for this stimulant is like a drug that squeezes the last ounce of vitality out of the animals. This is the most vital fact, and one that unlocks further doors leading to the secret not only of emigration but also of migration. This may be the primary cause of all mass emigrations and of their terrible conclusions, though the stimulant need not necessarily be the same. The mass hysteria and mental instability, as well as the craze

(Continued on Page 80)

nental drift.

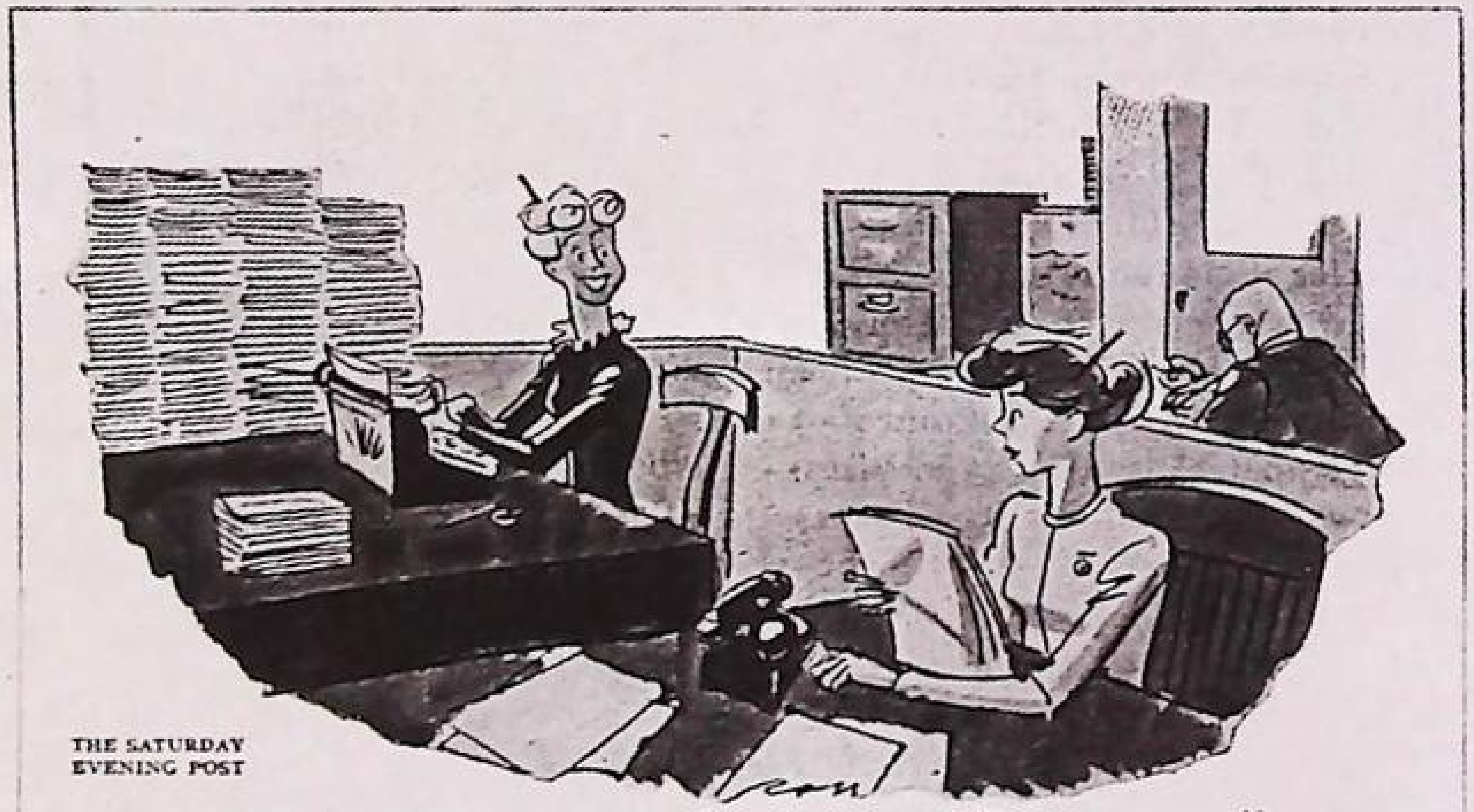
Eels spend many years of seemingly contented life in the ponds, ditches and rivers of Europe and North America, where they are dark green in color and fairly active. Then all of a sudden their color changes to metallic silver and their shape to a more streamlined pattern, while a radical transformation takes place in their internal anatomy. Then, leaving their safe homes, they go down the rivers to the sea and head out into the Atlantic. Those from Europe head west, those from America head southeast, and both swim onward without pause until they meet over a great deep in the Atlantic Ocean south of Bermuda, where they sink down and disappear forever.

Later, an eruption of tiny, transparent, threadlike creatures with bulging black eyes comes welling up to the surface and, spreading out like an ever-expanding mushroom, streams off in two groups, one to the east and one to the northwest. Those going east keep swimming for three years while they change their shape, until they reach the shores of Europe as the well-known elvers. Those going west also change, but they arrive sooner at the American coast. Both shoals immediately start up the rivers and penetrate farther and farther, until they reach the abodes whence their parents started out. What is more, those that go to Europe are invariably the European species of eel, and those that go to America are just as invariably the American species.

of the near-by land on either side of the crack, they would have been called upon to make longer and longer journeys to their breeding grounds as the continents drifted apart, until it eventually became unfeasible for them to make the trip every year. Thus they would have to spend a longer rest period in fresh water and go less frequently to breed. By carrying this process to an extreme, moreover, it will be seen that their behavior would eventually become that which actually obtains among them today, whereby they spend their whole lives resting and storing up energy for their great adventure and then, when fully mature, set out to the ancestral grounds, now thousands of miles away, where the eggs are laid.

The effort now entailed so entirely exhausts them that they never survive or return. Their behavior is, in fact, strong supporting evidence for the astonishing theories of Wegener.

Thus we see that the mystery of migration is a complex problem. It is a varied process, probably of many diverse origins, now maintained by many different recurrent causes and unified only by its object and result—namely, survival. It is a major life process of the whole animal world, and without it a great part of our earth's animal life would probably have long since become extinct. It will remain forever an impressive spectacle to watch, but there is nothing more mysterious about it than about any of the other great processes of nature.



THE SATURDAY EVENING POST

"Oh, it's fun; every envelope's got a different name."

THE ONLY "PEACE TALK" THAT COUNTS

The talk of our guns is the only kind of talk that will get this war over soon . . . so Yale & Towne are staying with their No. 1 job: turning out precision parts for guns, Radar, Corsair Navy Fighters, and locks for tanks, jeeps and other military purposes.

That is why your hardware dealer often cannot supply the YALE Lock you ask for.

It is better—don't you agree?—to keep feeding that equipment to the front . . . so that, right up to the end, our boys will be giving the enemy the kind of "argument" they can understand!

112 Parts for Corsair Navy Fighter

Radar Parts

Locks for Tanks

Why Few YALE Locks Are Reaching Your Dealer

Yale & Towne are using available metal, men and equipment to produce parts for
- 57-mm. anti-tank guns
- "CORSAIR" Famous Navy Fighter
- Radar
- Pumps for superchargers
- Bomb shackles

locks for ammunition chests, torpedo boxes, tanks and jeeps; pumps for refueling trucks.

For Wartime Necessities—Shop At Your Local Hardware Store

You can count on your hardware dealer for wartime shopping advice. Despite shortages, he still carries many products you need for home, office or workshop . . . can suggest substitutes when necessary . . . will help you keep things in good repair.

TRADE YALE MARK THE LOCKS RECOMMENDED BY THE WORLD'S LEADING LOCK EXPERTS

THE YALE & TOWNE MFG. CO., STAMFORD, CONN., U. S. A.

Makers of the famous Yale Line of Locks, Door Closers, Hardware, Pumps, Hoists and Industrial Trucks.

SHOP AT YOUR LOCAL HARDWARE STORE

No uniform's imposed upon the brain.
Thus, regiments of individual minds
Twirl on axes fixed at random set,
Each one thinking everything it finds
Another cause for egoistic fret;
Angry whirlwinds shakily astride
Nightmares run on oval carrousels,
Which, the match of self-conceit applied,
Burst out into microscopic hells.
All this furious motion night and day
Would seem enough to blow the tents away.

Guadalcanal, April 10, 1944.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

and pitched our pup tents in a grape vineyard. We stayed there for about a month, but we didn't go into Naples much. For we had no trouble finding girls in our bivouac town to talk to and dance with. It seemed as if every kid in the place was hustling dates for some dame. They had that threadbare line which started out, "You look for girls? We know where they are." You were supposed to pay the kids a dime for their information, but the military police were death on that kind of relaxation. They kept throwing the places that were too interesting off limits.

After we got acquainted with the people who owned the farm on which we were bivouacked, it was nicer and more fun at the camp than in town. The owner had been growing grapes for wine making for years. The grapes he grew were bigger and juicier than any grapes I'd ever seen. But he was economical with his land. In between the vines were rows of apple trees on which a strange sweet kind of apple grew. If a leaf fell from a tree, it was picked up right away, and the ground was turned over constantly.

We had a lot of soap and extra clothes and towels, and with Ralph Restaino, an Italian-American in my company, I dropped in to visit at the farmhouse, and we made the owner and his wife presents of some of our extra stuff. The old man brought out wine, cheese, apples, grapes and plums, and invited us to dinner. He made a party out of it. He killed a lamb, and we had lamb steak fried in olive oil, and tomatoes with salad dressing.

When we went to church with the vineyard owner, we found a lot of our owned the vineyard came running when they saw us filling our foxholes. And when we told them we were going, they began to cry, and said, "No! No! No!" over and over again. The younger sister turned and ran away. Soon she was back with a basket of grapes and other fruit, and put it into our truck. Ralph said something to her in Italian. I didn't understand. The family just stood there looking after us until we rolled out of sight.

We went through Naples and headed for Venafro, about forty-five miles away. When we got there, we found that we were going to be sent up on top of a mountain—Mt. Comedio—to hold it. The trucks stopped. We took full packs, extra socks, two blankets, overcoats and shelter halves, and started single file up the mountain, with the mules who were hauling our rations. It was a bare, bald mountain covered with jagged rocks and gullies, pockmarked with holes and slashed with ditches.

Rain was coming down as if it were spraying out of fire hydrants, and it was mountain. The men throwing away packs and food, and kneeling down to drink the muddy water in the ruts. It began to sleet and snow and turn cold. The cold made the mud stiffer and tougher to plod through, but even that was better than falling over the cliffs, as some of the men were doing. Fortunately, none of those who fell were seriously hurt—which was a miracle, because the rocks on which they fell were sharp and wicked-looking. We could see clouds down below us, and it was queer-looking up there—like the surface of the moon. We were all just about as bushed as men could be. I lay down in a gully on the top of the mountain and took off my pants and socks and wrung them out.

Then the word came, "Let's go." Men were dropping out at the side of the road—most of them were the replacements we had drawn to fill our ranks. Finally, we came to a big open spot littered with bodies of the dead. Some of them were puffed up and white in the rain, while others had turned black. We kept on going until we hit Dead Man's Gulch, where we found twenty-two dead Germans and three dead Americans. The battle a week before had boiled up through the gulch, and the casualties had been so heavy that there weren't enough men left on either side to dig graves. The smell of death was heavy there.

It was a lucky thing we couldn't smell the things that lay in wait for us just around a corner of time, such as the Battle of San Pietro, which was to be bloody, desperate and bitter.

Editor's Note—This is the third of a series of five articles by Sergeant Kelly and Mr. Martin. The fourth will appear next week.

THE MYSTERY OF MIGRATION

(Continued from Page 13)

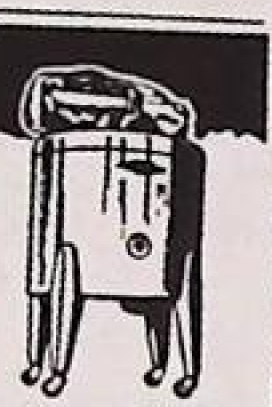
to breed often noted among emigrating swarms of animals, are probably due to this stimulant, but it is a simple lack of food or water that actually prompts the animals to start the trek. Once moving, however, they cannot stop, nor do they do so until some tragedy overpowers them.

Migration is an altogether different matter. It is an orderly and regular behavior pattern, and yet the very causes that induce it may be the same as those which prompt this mass suicide and exhaustion, as we shall see. The difference between emigration and migration is simple to comprehend. Whereas emigration always leads to the disappearance of the animals, in migration there is always a return to the point of origin of the journey, either by the very individuals that set out or at least by their offspring

A great many different kinds of animals migrate, and every year more and more are added to the list of known migrants. The practice may be far more prevalent than we at present believe, and may, in the end, be found to be almost universal. The degree of movement that it entails, however, varies greatly. Elephants have been shown to perform slow migrations for breeding purposes that take nearly ten years to complete, during which time the cows never see the bulls. Troops of some kinds of South

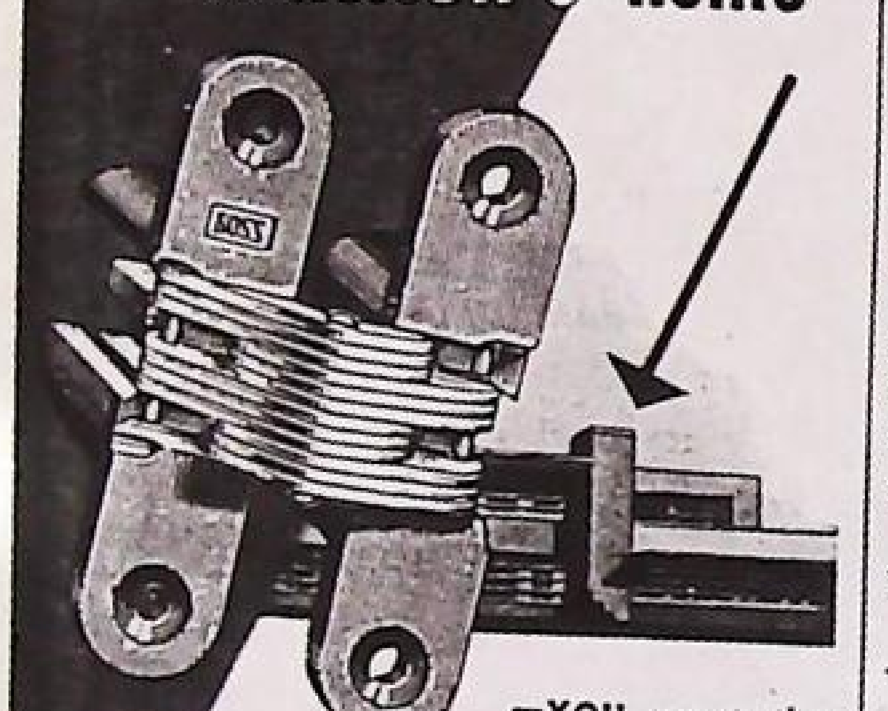
(Continued on Page 82)

Pro-phy-lac-tic
NYLON
Tooth Brush



VOSS WASHERS
FOR "V" DAY
Voss Washers have stood the wartime test of Quality, Safety and Dependability. There'll be Voss Washers again come Victory. Remember—only Voss has the Electro-Safe Wringer.
Genuine Voss Repair Parts Are Available
VOSS BROS. MFG. CO., Davenport, Iowa

Burpee's GIANT Pansies
Sow this summer, for largest blooms early next spring. All best colors, mixed, 35c-pkt. seeds free, with instructions, to try. Send stamp for postage.
35¢ PACKET FREE
W. ATLEE BURPEE CO.
Philadelphia 32, Pa. or Clinton, Iowa



for tomorrow's home
—YOU want the most modern home that superior design can provide. So insist on SOSS INVISIBLE HINGES. They permit flush, streamlined, artistic interior effects for your doors, secret panels, cabinet work, etc. Ask your architect or builder. Write for free descriptive booklet.
SOSS MANUFACTURING COMPANY
21773 Hoover Rd. Detroit 13, Mich.
SOSS Invisible HINGES
The Hallmark OF TOMORROW'S HOME

Want to park your car behind it?

Every day hundreds of cars end up right behind the 8-ball because their owners neglected them. These cars should have been good

McQUAY-NORRIS ALTINIZED ENGINEERED SET PISTON RINGS are designed and made to give new life to old and worn motors. There's a set of these rings engineered specifically for your own particular make and model of car to correct your

(*Continued from Page 80*)

American monkeys migrate back and forth every few weeks between two areas of forest—a regular alternation that goes on throughout the years, but which never transgresses the boundaries of the two areas.

One of the most astonishing sights in the world is the migration of land crabs in Jamaica. These creatures dwell in crevices among rocks all over the island, but once a year they all descend at the same time to certain shelving beaches for breeding purposes. They do this simply by following the straightest line possible, so that they scramble many unnecessary miles over obstacles, even houses, that happen to be in their path. The females carry their eggs with them. Each contains a fully developed larva, which is a minute, shrimp-formed creature that can live only in water, and it is to release these in the sea by the bursting of the eggs that the crabs make their weary seasonal journey.

Perhaps the most extraordinary manner of migration is found among the lowly group of insects that includes the aphids, or green flies, so well known to fruitgrowers. There is a species that spends half the year on apple trees and the other half on the stems of grasses. These aphids happen to be used by certain ants as we use cows. They are herded and protected by the ants, and, in return, allow themselves to be squeezed periodically, so that a honeylike fluid which exudes from their bodies may be eaten by the ants. Now, the ants have discovered that the aphids have to migrate and, being solicitous of the welfare of their charges, they have the extraordinary intelligence actually to carry them down from the apple trees and to place them on the grass stems or to take them from the grass up to the apple trees, as the season of the year may demand.

The normal seasonal migrations of many animals may often be referred to as plagues, and some may indeed provide rather startling aspects. I remember once in my youth being accused of introducing several hundred newts into the family domain after dinner, when, in point of fact, I was safely in bed on the top floor of the house. The cause of the host of newts was simply the warm evening, which had prompted my family to leave some French windows open. Through these the amphibians had streamed on their way from hibernation to a near-by pond.

The Highway of the Frogs

the tops of the forest trees. They were traveling on the ground, and in a few moments the tent was covered with green-boned frogs, and when we went outside with a light, the whole world seemed filled with the same species, all traveling down to the river. A few nights later came a host of tiny yellow-and-brown fellows; a few days after, big brown frogs with spurs on their thumbs came hopping by. More than a dozen species went by in the space of as many days, each keeping to itself, and all going to the river. What is more, most of them returned within a month, headed back into the forests to spend the rest of the year.

Globe-Trotting Terns

In the circumpolar regions, vast herds of reindeer move south every fall, and north every spring. They travel in small parties, feeding as they go, but sometimes when the weather changes suddenly, they become jammed together in tremendous droves which travelers have described as covering the flat, barren ground as far as the eye can see. Solid masses of animals sometimes pass without cease for four or five days. Eventually, these vast aggregations break up into small parties again and spread out, for these are true seasonal migrations.

Almost every kind of animal migrates. Lawrence of Arabia speaks of meeting a mass of migrating poisonous snakes while advancing toward Mesopotamia with his Arabs during the last war. The snakes were so numerous and his army suffered so many more casualties from them than from the enemy that he was forced to retreat and make a long detour.

But the champion traveler of them all is probably the Arctic tern, a small, slender, white, gull-like bird with tapering wings and a forked tail. This species nests about the eastern and northern coasts of Canada as far north as Baffin Island and the northwestern shores of Greenland. Small, numbered metal bands have been attached to the legs of nestlings in Labrador and the grown birds recaptured a few months later at the mouth of the Niger River in West Africa and in Natal on the Indian Ocean coast of South Africa. The latter place is a distance of nearly 9000 miles from Labrador, and as these birds follow an erratic course and as it is unlikely that a sea bird would cross the Kalahari Desert of South Africa, it appears that this individual, retaken in Natal, must have covered well over 10,000 miles. Nor is that the complete picture, for the Arctic

Animal life, especially in the winter, must have been forced south into the subtropical regions. However, the best feeding grounds, most abundant in the vital breeding stimulants, must then, as now, have been just south of this great sheet of ice in the belt where the summer sun melted the snow, and animals must have flocked to that belt to breed. As the ice caps slowly shrank, this northward flocking of the animals slowly extended until the spring movement became a migration. When the distance became great enough, many birds, on setting out for the warm south to recuperate from the exertions of breeding, found the intermediate areas already fully populated by their own kind, and had to fly over these relatives and seek winter quarters in more southern areas, where they did not infringe the rights of their own kind.

The habit among other groups of animals is often of similar causation, though it may be of totally different origin and have altogether unlike results. For instance, the Jamaican land crabs migrate for the purpose of releasing their larvae from the eggs and perhaps for mating immediately afterward. The astonishing behavior of Atlantic eels, though also carried out for the purpose of breeding, falls into a class by itself, the causes of which are unknown, but for the origin of which there is a fascinating theoretical explanation. This is based on what is known as Wegener's theory of continental drift.

Eels spend many years of seemingly contented life in the ponds, ditches and rivers of Europe and North America, where they are dark green in color and fairly active. Then all of a sudden their color changes to metallic silver and their shape to a more streamlined pattern, while a radical transformation takes place in their internal anatomy. Then, leaving their safe homes, they go down the rivers to the sea and head out into the Atlantic. Those from Europe head west, those from America head southeast, and both swim onward without pause until they meet over a great deep in the Atlantic Ocean [illegible] where they sink down [illegible]

[illegible] transparent, [illegible] black [illegible] surface and, [illegible] expanding [illegible] groups, [illegible] northwest. [illegible] for [illegible] their [illegible] shores of

Now, Wegener pointed out that the earth's crust is composed of two layers, the outer one being lighter and thinner, or less deep, than the oceans. Thus the continents are great concave rafts of this outer crust, resting on the second layer, like pieces of peel on a half-peeled orange. Wegener suggested that our earth originally had a complete skin of this outer layer, but that about half was lost by flying off into outer space and that the remainder then cracked up into big pieces and started to drift around to balance the earth, which was lopsided and wobbling. What is more, this scientist went on to show in a most ingenious manner that there is considerable evidence to support his theory.

He started by cutting out maps of the continents, and then, disregarding the oceans, he brought them together and showed that the east coast of North and South America fitted almost exactly into the west coast of Europe and Africa. The degree of junction is alarmingly perfect, as may be seen by the map. Wegener then fitted the other continents together almost equally well merely by bending them a little and swinging some of them round.

Now, should the eels have originated in the sea-filled crack between the Old and the New Worlds when they lay together, and have then developed the habit of spending their time between breeding season in the ponds and rivers of the near-by land on either side of the crack, they would have been called upon to make longer and longer journeys to their breeding grounds as the continents drifted apart, until it eventually became unfeasible for them to make the trip every year. Thus they would have to spend a longer rest period in fresh water and go less frequently to breed. By carrying this process to an extreme, moreover, it will be seen that their behavior would eventually become that which actually obtains among them today, whereby they spend their whole lives resting and storing up energy for their great adventure and then, when fully mature, set out to the ancestral grounds, now thousands of miles away, where the eggs are laid.

The effort now entailed so entirely exhausts them that they never survive or return. Their behavior is, in fact, strong supporting evidence for the astonishing theories of Wegener.

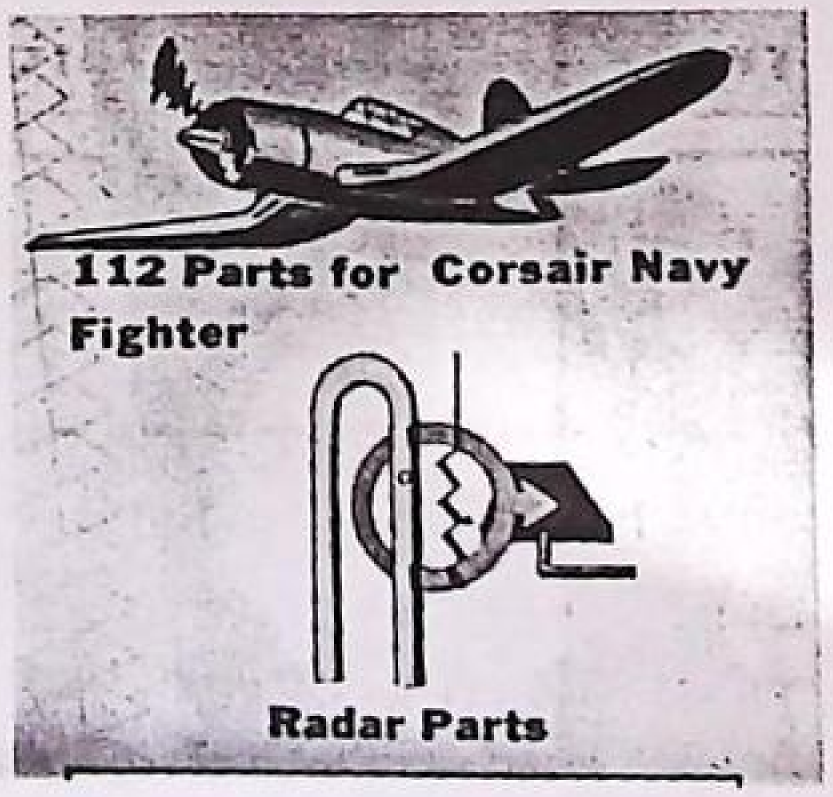
Thus we see that the mystery of migration is a complex problem. It is a varied process, probably of many diverse

THE ONLY "PEACE TALK" THAT COUNTS

The talk of our guns is the only kind of talk that will get this war over soon . . . so Yale & Towne are staying with their No. 1 job: turning out precision parts for guns, Radar, Corsair Navy Fighters, and locks for tanks, jeeps and other military purposes.

That is why your hardware dealer often cannot supply the YALE Lock you ask for.

It is better—don't you agree?—to keep feeding that equipment to the front . . . so that [illegible] on to the end,


112 Parts for Corsair Navy Fighter
Radar Parts

Want to park your car behind it?

Every day hundreds of cars end up right behind the 8-ball because their owners neglected them. These cars should have been good for many thousands of extra miles. Take your car to the repairman who installs McQuay-Norris Altinized Engineered Set Piston Rings and other parts. He'll give it the extra mileage and keep it from getting behind that old 8-ball.

McQUAY-NORRIS ALTINIZED ENGINEERED SET PISTON RINGS are designed and made to give new life to old and worn motors. There's a set of these rings engineered specifically for your own particular make and model of car to correct your motor's worn condition and make it last longer.

REMEMBER—
WAR BONDS IMPROVE WITH AGE
...CARS DON'T

McQUAY-NORRIS

PISTON RINGS • PISTONS • PINS • VALVES • BEARINGS • SLEEVES • PUMP PARTS
BOLTS • BUSHINGS • SILENT-U SHACKLES • WHEEL SUSPENSION PARTS

McQUAY-NORRIS
ALTINIZED
Engineered Set
PISTON RINGS
STEEL
Super-X
TIME TESTED
McQUAY NORRIS
AUTO PARTS

which exudes from their bodies may be eaten by the ants. Now, the ants have discovered that the aphids have to migrate and, being solicitous of the welfare of their charges, they have the extraordinary intelligence actually to carry them down from the apple trees and to place them on the grass stems or to take them from the grass up to the apple trees, as the season of the year may demand.

The normal seasonal migrations of many animals may often be referred to as plagues, and some may indeed provide rather startling aspects. I remember once in my youth being accused of introducing several hundred newts into the family domain after dinner, when, in point of fact, I was safely in bed on the top floor of the house. The cause of the host of newts was simply the warm evening, which had prompted my family to leave some French windows open. Through these the amphibians had streamed on their way from hibernation to a near-by pond.

The Highway of the Frogs

The seal trade is dependent upon a seasonal migration, the animals coming from the regions of Nova Zemlya, from the east coast of Greenland and from the channels west of the Hudson Bay inlet to breed on the edge of the ice floes north of Iceland and in the mouth of the St. Lawrence River. The males arrive first, and seize a piece of territory, which they defend against all comers with great savagery. Later, the females arrive and immediately give birth to the little fluffy "white coats" that they have carried since the last meeting with the males a year before. Immediately after delivering their offspring, they are claimed by the males and again inseminated; then the males leave. The mothers linger till the young can fend for themselves; then they, too, leave. For the rest of the year, the fur seals are scattered far and wide over a vast expanse of ocean.

It now appears that most frogs make seasonal migrations to breed. Many tree frogs not only descend to the ground but travel considerable distances to special ponds or rivers. We once had a forest camp in a narrow valley in Africa that led down to a large river. This turned out to be a highway of the frogs. At the beginning of the rainy season we were suddenly invaded one night by a host of rare frogs with green bones that live on

advancing toward Mesopotamia with his Arabs during the last war. The snakes were so numerous and his army suffered so many more casualties from them than from the enemy that he was forced to retreat and make a long detour.

But the champion traveler of them all is probably the Arctic tern, a small, slender, white, gull-like bird with tapering wings and a forked tail. This species nests about the eastern and northern coasts of Canada as far north as Baffin Island and the northwestern shores of Greenland. Small, numbered metal bands have been attached to the legs of nestlings in Labrador and the grown birds recaptured a few months later at the mouth of the Niger River in West Africa and in Natal on the Indian Ocean coast of South Africa. The latter place is a distance of nearly 9000 miles from Labrador, and as these birds follow an erratic course and as it is unlikely that a sea bird would cross the Kalahari Desert of South Africa, it appears that this individual, retaken in Natal, must have covered well over 10,000 miles. Nor is that the complete picture, for the Arctic tern is found in the Antarctic during our winter. Moreover, it is never met with on the eastern seaboard of either North or South America, while it is well known as a seasonal migrant up and down the western seaboard of both Europe and Africa. From this it has been inferred that this species migrates from Arctic America across the North Atlantic to Europe, thence down the coast past Africa to the Antarctic Ocean, and back up the same route the following spring—a distance, in all, of about 24,000 miles, or almost equivalent to the total circumference of the earth.

Why should birds perform these prodigious feats? Why should animals migrate at all, and what prompts them to do so? The only answer to this question that seems plausible is the suggestion that the breeding stimulant which was discovered to be the cause of the lemmings' increased fertility is found in the young vegetation—and in the insects that feed upon that vegetation—in the northlands freed from the blanket of winter snow by the warm spring sun. The birds crave this vitamin like a drug.

It is known that in comparatively recent geological times the earth passed through what has been called an Ice Age. The polar ice caps were tremendously enlarged, extending south in North America as far as the state of Kentucky

THE SATURDAY EVENING POST

THE CURTIS PUBLISHING COMPANY — *CYRUS H. K. CURTIS, President, 1883-1932*

BEN HIBBS, Editor
ROBERT FUOSS, Managing Editor
KENNETH STUART, Art Editor — MARTIN SOMMERS, Foreign Editor — BEVERLY SMITH, Washington Editor
ASSOCIATE EDITORS: E. N. BRANDT • RICHARD THRUELSEN • STUART ROSE • W. THORNTON MARTIN
DEMAREE BESS • JACK ALEXANDER • FREDERIC NELSON • ARTHUR W. BAUM • HARLEY P. COOK
ROBERT MURPHY • EDGAR SNOW • MARIONE DERRICKSON • WESLEY PRICE • JOHN BAILEY
ROBERT M. YODER • PEGGY DOWST • ERNEST O. HAUSER • H. RALPH KNIGHT • STEVEN M. SPENCER
HUGH MORROW • HARRY T. PAXTON
DAY EDGAR, Assistant to the Editor • WILLIAM J. STEVENS, JR., Assistant Managing Editor
FRANK KILKER, Associate Art Editor • D. H. BORGSTEDT, Photography Editor
EDITORIAL ASSISTANTS: EDWARD H. SAILE • WILLIAM J. BAILEY • MARTHA O. STENGEL
KATHARINE BRITTON • RICHARD L. LEHMAN

IN THIS ISSUE

January 3, 1948 — *Vol. 220, No. 27*

4 SHORT STORIES

THE RANSOM OF PETER DRAKE . . . . Jacland Marmur 22
ONE MAN OUT. . . . . Richard Stern 24
GIRL AT STAKE . . . . Edward W. O'Brien 29
SUDDEN BETROTHAL . . . . Willis Lindquist 32

NOVELETTE

THE DESERTER . . . . Scott Young 18

8 ARTICLES

THE TWO-FISTED WISDOM OF CHING . . . . Beverly Smith 15
THERE COULD BE DINOSAURS . . . . Ivan T. Sanderson 17
ISLE OF PLUNDER. . . . . Lewis Nordyke 20
BRITAIN'S JEERING SECTION. . . . . Ernest O. Hauser 25
THE RUSSIAN BEAR HUGS GREECE . . . . Demaree Bess 26
BASKETBALL'S HOTTEST SHOT. . . . . Russ Davis 28
CRANBERRY HARVEST (A Post Picture Story)
Photography by Art Griffin 30
THE COCONUT KING OF ZAMBOANGA . . . Harold H. Martin 34

2 SERIALS

THIS IS MY SON (Fourth of eight parts) .Clarence Budington Kelland 36
[illegible] WITNESS (Sixth of seven parts). . . Mary Hastings Bradley 40

"LESS THAN 6¢ PER SQUARE FOOT"

PROTECT your floors

Built to protect heavy traffic spots, quiet, safe, easy on the feet, easy to clean—*that's* Bird Rubberlike Runner.

Inexpensive, long-wearing, good looking, won't curl, hugs the floor — *that's* Bird Rubberlike Runner.

Thousands of stores, hospitals, railroads, office buildings, factories and other delighted users. See it at home furnishing, hardware and department stores in 27" and 36" widths and write us for *Free* Booklet. . . . Bird & Son, inc., 143 Washington Street, East Walpole, Mass.

Bird RUBBERLIKE® Runner
PATENTED NON-RUBBER CONSTRUCTION

JOLLY TIME POP CORN

NO HULLS!
A SPECIAL POP CORN FOR HOME POPPING
JOLLY TIME POP CORN

ONE MAN OUT . . . . Richard Stern 24
GIRL AT STAKE . . . . Edward W. O'Brien 29
SUDDEN BETROTHAL . . . . Willis Lindquist 32

NOVELETTE

THE DESERTER . . . . Scott Young 18

8 ARTICLES

THE TWO-FISTED WISDOM OF CHING . . . . Beverly Smith 15
THERE COULD BE DINOSAURS . . . . Ivan T. Sanderson 17
ISLE OF PLUNDER. . . . . Lewis Nordyke 20
BRITAIN'S JEERING SECTION. . . . . Ernest O. Hauser 25
THE RUSSIAN BEAR HUGS GREECE . . . . Demaree Bess 26
BASKETBALL'S HOTTEST SHOT. . . . . Russ Davis 28
CRANBERRY HARVEST (A Post Picture Story)
Photography by Art Griffin 30
THE COCONUT KING OF ZAMBOANGA . . . . Harold H. Martin 34

2 SERIALS

THIS IS MY SON (Fourth of eight parts) . Clarence Budington Kelland 36
WITHOUT WITNESS (Sixth of seven parts). . . Mary Hastings Bradley 40

OTHER FEATURES

LETTERS 4
KEEPING POSTED 10
REPORT TO THE EDITORS . . 12
POST SCRIPTS. 38
VERSE 64, 71, 74, 76, 79, 82
EDITORIALS 92

THIS WEEK'S COVER

No one who lives in a big-city apartment house has to be content with his own observance of New Year's. He takes part willingly or not in parties above, below, and across the way. What interested John Falter was the possibility of showing the new year's arrival as it touched seven or eight homes, all in compact layers. He seems to have covered all ages, from the baby to old age, in the person of the old gentleman alone except for his hunting trophies. The scene is more or less based on Gramercy Park, New York, where Falter occupies a second-story apartment. It's our opinion that at the hour in question the old gent's moose head probably is making more sense than most of the more animate characters.

The Saturday Evening Post, copyrighted 1947 by The Curtis Publishing Company in U. S. and Great Britain. All rights reserved. Title registered in U. S. Patent Office and foreign countries.

Published weekly by The Curtis Publishing Company, Independence Square, Philadelphia, Pa. Entered as Second Class Matter, November 18, 1879, at the Post Office at Philadelphia under the Act of March 3, 1879. Entered as Second Class Matter at the Post Office Department, Ottawa, Canada. by Curtis Distributing Company, Ltd., Toronto, Ont., Canada.

Subscription prices: U. S. and Possessions, Canada, Newfoundland and Labrador, Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Mexico, Nicaragua, Panama, Philippine Islands, Republic of Honduras, Salvador, Spain and South America except the Guianas, 1 Yr., $6; 2 Yrs., $10; 3 Yrs., $14; 4 Yrs., $18. Other Countries, 1 year, $11. Remit by Money Order or Draft on a bank in the U. S. payable in U. S. Funds. All prices subject to change without notice. All subscriptions must be paid for in advance.

Unconditional Guaranty. We agree, upon request direct from subscribers to the Philadelphia office, to refund the full amount paid for any copies of Curtis publications not previously mailed.

The Curtis Publishing Company, Walter D. Fuller, President; Arthur W. Kohler, Vice-President and Advertising Director; Mary Curtis Zimbalist, Vice-President; Cary W. Bok, Vice-President and Treasurer; Lewis W. Trayser, Vice-President and Director of Manufacturing; Benjamin Allen, Vice-President and Director of Circulation; Robert E. MacNeal, Secretary; Morton Bailey, Manager of The Saturday Evening Post. The Company also publishes Ladies' Home Journal, Country Gentleman, Jack and Jill, and Holiday.

Send your Post change of address to

THE SATURDAY EVENING POST
INDEPENDENCE SQUARE, PHILA. 5, PA.

at least 30 days before the date of the issue with which it is to take effect. Send old address with the new, enclosing if possible your address label. The Post Office will not forward copies unless you provide extra postage. Duplicate copies cannot be sent.

The names of characters used in all Post fiction and semi-fiction articles are fictitious. Any resemblance to a living person is a coincidence.

Bird RUBBERLIKE®
PATENTED NON-RUBBER CONSTRUCTION
Runner
BIRD

NO HULLS!
A SPECIAL POP CORN FOR HOME POPPING
JOLLY TIME POP CORN

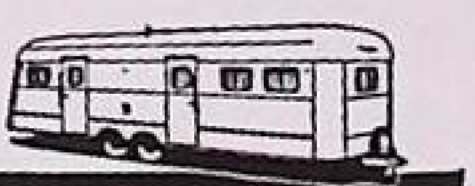
INVITATION TO Roamantic LIVING

It's your own permanent home, wherever you wish to settle . . . your deluxe living accommodations in glamorous new cities . . . your cozy seaside cottage . . . your hunting lodge amid the pine-clad mountains.

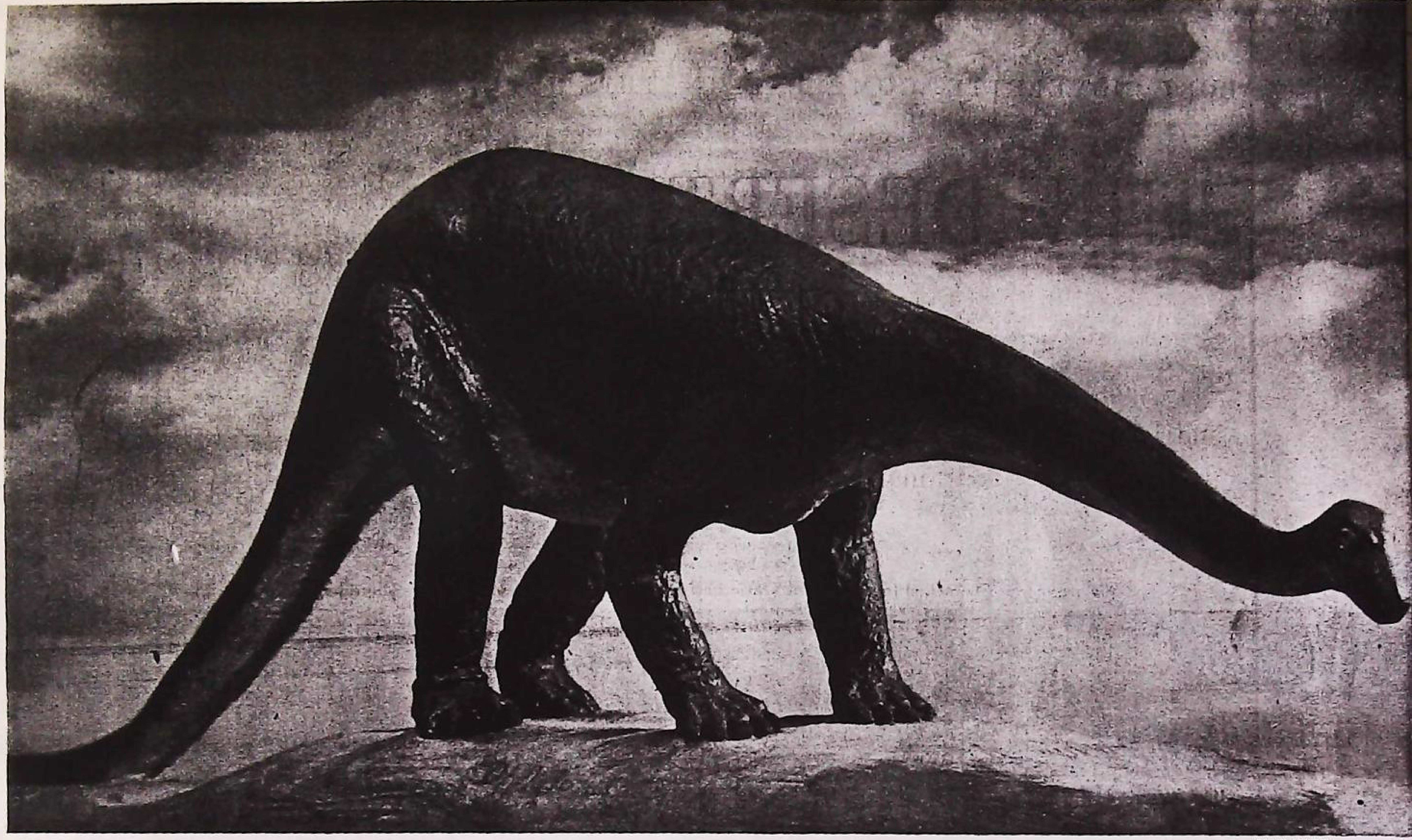
Yes, the PLATT *Trail-A-Home* is truly your Invitation to Roamantic Living — and to fine, comfortable living as well. Think of it! A beautifully furnished living room . . . a full kitchen with electric refrigerator, bottled-gas range, closets galore, *and hot water* . . . a large bedroom with big double bed . . . a bathroom including wash stand, shower and toilet — all this PLUS the mobility that lets you move wherever you wish!

WRITE FOR NEW CATALOG FREE

NO LIVING COULD BE FINER


PLATT TRAILER CO., INC.
Dept. 781 ELKHART, INDIANA

MAGAZINE: THE SATURDAY EVENING POST
DATE: 3 JANUARY 1948, VOL. 220, #27
PAGES: 17, 53, 56
ARTICLE: THERE COULD BE DINOSAURS
AUTHOR: IVAN T. SANDERSON



OLLIE ATKINS

If he's gone, we won't miss him. This model, from the Smithsonian Institution, is science's idea of how the amphibious dinosaur looked—or looks.

There Could be Dinosaurs

By IVAN T. SANDERSON

A scientist ponders some curious tales of great beasts which may have lingered on from prehistoric times. What about the snake-headed lau? And how do you explain the four-ton What-is-it **that** devours **elephants and hippos?**

THERE is a very curious business going on in

could only fit a dinosaur, dwelling in the Dilolo

If he's gone, we won't miss him. This model, from the Smithsonian Institution, is science's idea of how the amphibious dinosaur looked—or looks.

OLLIE ATKINS

There Could be Dinosaurs

By IVAN T. SANDERSON

A scientist ponders some curious tales of great beasts which may have lingered on from prehistoric times. What about the snake-headed lau? And how do you explain the four-ton What-is-it that devours elephants and hippos?

THERE is a very curious business going on in Africa that merits careful consideration and a good airing. The mere thought of it is an abomination to scientists, but it is a matter that never fails to excite our imagination. It revolves around the question, doubtless born of wishful thinking, that all of us have probably at one time or another asked ourselves—namely, could there be a few dinosaurs still living in the remoter corners of the earth?

We really have nothing but negative evidence to warrant our stating that the dinosaurs are extinct, while, astonishing as it may seem, there are apparently quite a few people who actually believe that they still exist. The evidence they present, moreover, is positive, though even they cannot deny that it is purely circumstantial. Much of it may probably and quite justifiably be disposed of as wishful thinking, as examples of mistaken identity, scientific overenthusiasm, native stupidity or even bad liquor; but there are some things like the tuatara, a two-foot lizard-shaped creature from New Zealand, and some millions of crocodiles that cannot be gainsaid, for they are just as real as the elephants in our zoos and the cattle in our fields. All the facts, moreover, are on record, so let us examine them, beginning with what will probably be regarded as the lunatic fringe.

A well-known South African big-game hunter, delighting in the name of Mr. F. Gobler, returned from a trip to Angola and announced to the Capetown newspaper, the Cape Argus, that there was an animal of large dimensions, the description of which could only fit a dinosaur, dwelling in the Dilolo Swamps, and well known to the natives as the "chipekwe." He stated: "Its weight would be about four tons and it attacks rhino, hippo and elephants. Hunters have heard a chipekwe—at night—devouring a dead rhino, crushing the bones and tearing out huge lumps of meat. It has the head and tail of a lizard. A German scientist has photographed it. I went to the swamps in search of it, but the natives told me it was extremely rare, and I could not locate the monster. Nevertheless I am convinced the chipekwe does exist. Here is the photograph."

This, of course, produced a terrific outburst in the editorial and correspondence columns of the paper, but the astonishing thing is that the majority of the experts, both scientific and sporting, and all with much local knowledge, agreed that it might exist. Their reasons will become abundantly clear later.

I doubt if any of us would believe such a tale, even if related in all solemnity by the most renowned explorer, and yet a well-known big-game hunter named Maj. H. C. Maydon, with over a decade of experience chasing animals in Africa, has written of this and a number of similar statements: "Do I believe them? Of course; why not? I add fifty per cent for native exaggeration, but I believe there is more than 'something' in them. I met a man, an old hunter-prospector, once in Livingstone, Rhodesia, who swore that he had seen a water monster in Lake Mweru and had studied its tracks. Why has no one yet seen these beasts in the flesh for certain or brought one to bag? Because they are forest or swamp dwellers. How many people have seen a bongo or a giant forest hog or a yellow-backed duiker, and yet they are not excessively rare."

Worse than this, however, we have to face the fact that the greatest animal dealer of all time, Carl Hagenbeck, not only believed in such reports but actually invested a very considerable sum in an expedition which he sent out to Africa under his best professional collector to search for the creature. A hard-boiled businessman with many years' experience in buying and selling animals simply does not do such a thing unless he has very real grounds for expecting concrete returns on his money. Hagenbeck, moreover, had such grounds, which he states in his own words as follows: "I received reports from two quite distinct sources of the existence of an immense and wholly unknown animal said to inhabit the interior of Rhodesia. Almost identical stories reached me, firstly, through one of my own travelers and, secondly, through an English gentleman who had been shooting big game in Central Africa. The reports were thus quite independent of each other. The natives, it seemed, had told both my informants that in the depths of the great swamps there dwelt a huge monster, half elephant, half dragon. This, however, is not the only evidence for the existence of the animal. It is now several decades ago since Menges, who is, of course, perfectly reliable, heard a precisely similar story from the Negroes; and, still more remarkable, on the walls of certain caverns in Central Africa there are

(Continued on Page 53)

THERE COULD BE DINOSAURS

(Continued from Page 17)

to be found actual drawings of this strange creature. From what I have heard of the animal, it seems to me that it can only be some kind of dinosaur, seemingly akin to the brontosaurus."

Now it is easy enough to scoff at these tales and even to pity the sporting major and the poor, gullible animal dealer. It is quite permissible to treat such reports with a healthy skepticism and it is assuredly prudent to do so, unless you want to have the entire fraternity of zoologists on your neck. Nonetheless, to let the matter rest there would be entirely unscientific. The very basis of science is a healthy skepticism—one, moreover, that should question the skeptic who denies the possibility of anything just as readily as the benighted traveler who dares to affirm it.

The borderland of zoology is very extensive; the number of animals still to be discovered on this small planet is much greater than is popularly realized or science is prepared to advertise. Nor are all of these microscopic worms or tiny, obscure tropical beetles, for a large and perfectly distinct species of cheetah, taller than a leopard, turned up in a fairly well-known part of East Africa only a few years ago; and the famous case of the okapi, an animal as large as a horse that was only a rumor until 1900, is now well known. The number of entirely new types of animals that are discovered every year is amazing.

This brings us to the next set of facts which anybody with a truly unbiased mind should contemplate.

A notion has somehow gained popular credence that the surface of the earth is now fully explored and for the most part well known and even mapped. There was never a greater misconception. The percentage of the land surface of the earth that is actually inhabited—that is to say, lived upon, enclosed, farmed or regularly traversed—is [illegible] limited. Even if the territory and fill up the space, but all the time the country remains absolutely untouched.

The notion, therefore, that any beast could not exist either because of its size or because somebody would sooner or later have seen it, is really quite absurd. There might easily be creatures as big as elephants living in some profusion in, say, the back of Dutch Guiana, which is now only seventeen hours' flight in a commercial plane from Miami.

Such animals might have been well known to several thousand people for hundreds of years, but their presence would still be unsuspected by us, for none of the Amerindians who, from aerial surveys, are known to exist in that area, has ever come out or even been seen by anybody from outside.

Another fact that is often not sufficiently appreciated even by experts is the extraordinary selectivity displayed by many animals in choosing their places of abode. Larger animals especially tend to stay within a most limited area that is often very distinctive as far as vegetation and other environmental conditions are concerned. Even nomadic creatures often travel only from one patch of some particular kind of forest to another of the same, and avoid all other kinds as they would a forest fire. Hippopotamus will abound in certain stretches of a river and never be seen in others.

This trait often accounts for the supposed rarity of many animals, when in point of fact and apart from species that are actually on the road to rapid extinction, there is probably no such thing as a rare animal. It is merely a question of finding where it lives and how it lives, and in that place it will prove to be quite common. Any creature living in a tropical swamp surrounded by dry jungles would always stay there and, if that swamp could not be penetrated by man, might never be seen. In such a swamp of two thousand square miles' extent, many very large beasts could lurk.

The possibilities become even greater if the animal in question be semiaquatic, and it is interesting to note in this connection that all the accounts of as yet unidentified beasts which sound like dinosaurs are of swamp creatures that retreat into the water when alarmed.

The vastness of Africa is a byword and can be attested by thousands of our wartime fliers, but to be really appreciated it has to be seen from the ground. Also it is only on the ground that one comes to understand the true nature of the tropical forests and swamplands. A companion and I once spent a full five minutes peering into quite a small patch of bushes trying to see an animal apparently about as bulky as the two of us put together, that we could actually hear breathing. We never did see it, even when it took fright and left, making about as much noise as a light tank. On another occasion I was in a canoe among reeds in Africa and, after looking up at the sun ahead to take my bearings, bent down to pick up a cigarette. When I looked up again there was a full-grown bull elephant almost on top of me. As I watched, quivering, it sank down behind the reeds, and although I immediately stood up in the canoe so that I could almost see over the swamp, I never even heard the vast beast again, nor did I see so much as a single reed move.

This was only a mile from a native village of two thousand souls and in an area where elephants had not, as far as I could learn, been seen within living memory.

Small wonder, then, that residents of Africa, and especially those who have hunted big game in more distant parts, do not readily scoff at these tales which provoke us to so much laughter—tales such as that brought out of the Congo by a certain Monsieur Lepage in 1920.

This man returned from a hunting trip and announced that he had come upon an extraordinary animal of great size in a swamp. It had charged him, making a snorting noise, and he had fired wildly but, seeing that it did not halt, he had retreated precipitately. When the monster abandoned the chase he turned and examined it through a pair of binoculars for some considerable period. He stated that it was eight meters—about twenty-six feet—long, had a long pointed snout, a short horn above the nostrils and a scaly hump on its shoulders. The forefeet appeared to be solid, like those of a horse, but the hindfeet were separated into digits.

The most astonishing thing about these reports, however, is not so much their prevalence as the widespread points of their origin. Here again our modern atlases are very misleading because the practice—born quite properly of necessity—of squeezing the whole of Africa onto one page gives the impression that the Cameroons are not really very far from the Upper Nile. This distance is actually 1600 miles, and the territory in between is a vast land of forests, swamps and savannahs. The natives on one side have no connection whatsoever with those on the other, and yet very similar stories are rife at both extremes.

These native tales are to be met with throughout the equatorial-rain forest belt from Gambia in the west to the Nile in the east, and south to Angola and Rhodesia. Carl Hagenbeck's collectors picked them up in Liberia, and the leader of a German expedition to the Cameroons in 1913 made a very interesting report which has never been published in full, but which has been quoted by several others. In widely separated areas, he collected descriptions of an alleged beast named the mokele-mbembe from experienced native guides who could not possibly have known each other.

His description states: "The animal is said to be of a brownish-gray color with a smooth skin, its size approximating that of an elephant; at least

tory, [illegible] tropical [illegible] for a large and perfectly distinct species of cheetah, taller than a leopard, turned up in a fairly well-known part of East Africa only a few years ago; and the famous case of the okapi, an animal as large as a horse that was only a rumor until 1900, is now well known. The number of entirely new types of animals that are discovered every year is amazing.

This brings us to the next set of facts which anybody with a truly unbiased mind should contemplate.

A notion has somehow gained popular credence that the surface of the earth is now fully explored and for the most part well known and even mapped. There was never a greater misconception. The percentage of the land surface of the earth that is actually inhabited—that is to say, lived upon, enclosed, farmed or regularly traversed—is quite limited. Even if the territory that is penetrated only for hunting or the gathering of food crops be added, vast areas still remain completely unused.

There are such areas in every continent, areas that are never even so much as entered for years on end by any man. Nor are these only the hot deserts of the torrid regions or the cold deserts of the poles. I have visited a house in New Jersey behind which the woods extend in one direction, unbroken by so much as a path, for twenty-one miles.

In parts of the tropics there are areas of quite staggering immensity which no man has as yet been able to penetrate. Whole mountain ranges in Australia have never even been seen from the ground; large parts of the northern Himalayas are as yet unvisited; regions of New Guinea have never been reached, and considerable portions of the Amazon valley are quite unknown. The Addar swamps in Central Africa cover 1800 square miles, those of the Bahr el Ghazal several thousands, and parts of them cannot be traversed. Just because a map is covered with names does not mean that the country is known. Aerial surveys with modern photographic technique only add to the popular misconception, for lots of physical features are recorded in some detail and rapidly find their way into our atlases. These are given names avoid all other kinds as they would a forest fire. Hippopotamus will abound in certain stretches of a river and never be seen in others.

This trait often accounts for the supposed rarity of many animals, when in point of fact and apart from species that are actually on the road to rapid extinction, there is probably no such thing as a rare animal. It is merely a question of finding where it lives and how it lives, and in that place it will prove to be quite common. Any creature living in a tropical swamp surrounded by dry jungles would always stay there and, if that swamp could not elephant almost on top of me. As I watched, quivering, it sank down behind the reeds, and although I immediately stood up in the canoe so that I could almost see over the swamp, I never even heard the vast beast again, nor did I see so much as a single reed move.

This was only a mile from a native village of two thousand souls and in an area where elephants had not, as far as I could learn, been seen within living memory.

Small wonder, then, that residents of Africa, and especially those who have hunted big game in more distant parts, land of forests, swamps and savannahs. The natives on one side have no connection whatsoever with those on the other, and yet very similar stories are rife at both extremes.

These native tales are to be met with throughout the equatorial-rain forest belt from Gambia in the west to the Nile in the east, and south to Angola and Rhodesia. Carl Hagenbeck's collectors picked them up in Liberia, and the leader of a German expedition to the Cameroons in 1913 made a very interesting report which has never been published in full, but which has been quoted by several others. In widely separated areas, he collected descriptions of an alleged beast named the mokele-mbembe from experienced native guides who could not possibly have known each other.

His description states: "The animal is said to be of a brownish-gray color with a smooth skin, its size approximating that of an elephant; at least that of a hippopotamus. It is said to have a long and very flexible neck and only one tooth but a very long one; *some say it is a horn*. A few spoke about a long muscular tail like that of an alligator.

"Canoes coming near it are said to be doomed; the animal is said to attack the vessels at once and to kill the crews, but without eating the bodies. The creature is said to live in the caves that have been washed out by the river in the clay of its shores at sharp bends. It is said to climb the shore even at daytime in search of food; its diet is said to be entirely vegetable. This feature disagrees with a possible explanation as a myth. The preferred plant was shown to me; it is a kind of liana with large white blossoms, with a milky sap and applelike fruits. At the Ssômbo River I was shown a path said to have been made by this animal in order to get at its food. The path was fresh and there were plants of the described type near by. But since there were too many tracks of elephants, hippos and other large mammals, it was impossible to make out a particular spoor with any amount of certainty."

This brings up the whole question of native tales, over which there is perhaps more acrimonious debate than over any other subject. Opinions appear to be

(*Continued on Page 56*)

THE SATURDAY EVENING POST

"She can get a girl but she refuses to describe her."

(Continued from Page 53)

about equally divided among those who have lived in Africa, but both parties tend to overlook certain facts. Because of his animistic beliefs, the African lives in a world peopled by a host of spirits which are nonetheless just as real to him as animals are to us, and he may describe these with great clarity of expression.

However, we must at the same time place against this the African's customary and remarkable knowledge of natural history and the fact that usually he not only has a name for all the animals in his country but also knows their habits and their slightest variations in great detail.

The African can, however, develop a maddening habit of exaggeration or even outright fabrication if he desires to please an inquiring foreigner. Against this, in turn, must be placed his very widespread reluctance to publicize anything in his territory that might conceivably be of value to the outsider lest, as he has learned from unhappy experience, a new tax immediately be clapped upon it. If you do get a tribal African's confidence and he starts to talk about animals, as opposed to the spirit creatures of his country, it is well worth while to listen intently, for it must not be forgotten that certain Africans always contended that mosquitoes had something to do with malaria, a fact we proved only quite recently. Others similarly talked about the okapi for a very long time before it was actually shot by a white man.

Sometimes the African's patience with us and our disbelief of things he knows well becomes exhausted, and even he resorts to the writing of official minutes.

The now famous report of the late King Lewanika, of the Barotse tribe, is of this nature. The king, who took great interest in the fauna of his country, constantly heard of a large reptile that lived in the great swamps. He had passed this information on, but, since nobody believed it, he gave strict orders that the next time any of his people saw the animal they were immediately to tell him. After some time three men did so report, saying that they had come across the beast at the edge of a marsh, that it had a lor

desia. This seems to be of an animal more akin to the chipekwe, and an Englishman who spent eighteen years on Lake Bangweulu in that country has given an account of the slaying of one, as described by the local chief, who had it from his grandfather. Apparently the tribesmen had killed the creature with their hippo spears. It had a smooth, hairless, dark body and the head was adorned with a single white ivory horn. The story was firmly rooted in local tradition, and the Englishman in question believed in the existence of the animal, for he reports that a retired local administrator had heard some very large animal splashing in a lake in the nighttime and had the next morning examined large unknown spoor on the bank.

The mention of a single ivory horn brings us to a whole set of most interesting facts that were assembled from quite another source. Some years ago the excavation of the famous Ishtar Gate of Babylon by the German professor, Robert Koldewey, brought to light a number of startlingly realistic bas-reliefs of a dragonlike animal with curiously mixed features. It had a scaled body, long tail and neck, hindfeet of a bird and forefeet of a lion and a strange reptilian head sporting a single straight, upright horn like that of a rhinoceros, wrinkles under its neck, a crest like a modern iguana lizard, and a very pronounced, serpentine tongue. At first this fabulous creature was classed along with the winged, human-headed bulls and other fabulous monsters of Babylonian mythology, but profound researches gradually forced the professor to quite a different conclusion.

The creature had the name of the sirrush and the priests were said to have held it in a dark cavern in the temple. It was depicted on the walls of the Ishtar Gate in great numbers and in association with a large, oxlike animal which is now known to have been the extinct aurochs and very definitely a real animal.

When analyzed, allowing for some considerable Babylonian artistic license, the strangely mixed characters of the sirrush appeared to be much less fabulous than had at first been supposed, and, despite his solid Teutonic background, Professor Koldewey became more and more convinced that it was not a representation of a mythical creature, but an attempt to depict a real animal, an example or examples of which had actually been kept alive in Babylon in very early days by the priests.

After much searching in the depths of his cautious scientific soul, he even made so bold as to state in print that this animal was one of the plant-eating, bird-footed dinosaurs, many types of which had by that time been reconstructed from fossil remains. He further pointed out that such remains were not to be found anywhere in or near Mesopotamia and that the sirrush could not be a Babylonian attempt to reconstruct the animal from fossils. Its characters as shown in Babylonian art from the earliest times had not changed, and displayed great detail in scales, horns, wrinkles, the crest and the serpentine tongue, which, taken together, could not all have been just thought up after viewing a fossilized skeleton.

On further analysis the sirrush seems to display characteristics of the chipekwe of Lake Bangweulu, of Monsieur Lepage's beast from the Congo, Carl Hagenbeck's half-elephant-half-dragon, and of the mokele-mbembe, and even of the lau. The single horn on the snout, the scaled hump on the shoulders, the solid forefeet and cloven hindfeet, the long neck and small serpentine head and even the tentacles of the lau all appear in the sirrush.

The final link, however, is that one of Carl Hagenbeck's collectors picked up in Central Africa, in the locality where the chipekwe tales are most prevalent, some glazed bricks of the exact type used in the construction of the Ishtar Gate, and which are, as far as we know, unique to that time and country. This is much less fabulous than it sounds, for there is absolute evidence that seaborne trade had been carried on even by the Sumerians before the rise of Babylon, between Mesopotamia and the east coast of Africa which was called Me-lukh-kha and was said to be inhabited by Salmuti, meaning "black men." If a horned, herbivorous, bird-footed dinosaur existed in Africa at that time, a captive specimen or specimens might well have been shipped back to Mesopotamia, where they would undoubtedly have created quite a stir and become the exclusive property of the ruling priesthood. Their presence as sacred beasts would prompt the making of very careful portraits on important monuments.

Whether the Babylonian sirrush and the other creatures rumored to have come from Africa exist now, or ever existed at all, is a matter that can be proved conclusively only by the discovery of either a live specimen or of fresh bones in association with the remains of men. But if they do exist, the question that immediately springs to mind is, could they be dinosaurs? The answer, perhaps rather surprisingly, is yes.

The name dinosaur, which means simply "terrible lizard," is a popular, not a scientific term. It would be best reserved for two groups of reptiles that are thought to be totally extinct, but it is also customarily given to the larger extinct members of all the other groups including ancestors of the tortoises, crocodiles and lizards. Neither in its general nor its restricted sense, however, does the name dinosaur necessarily imply primitiveness of structure, great geological age or even large size, for there were many medium, small and tiny ones. The crocodiles as a group are just as old and individually much larger than many dinosaurs, while the tortoises belong to one of the most primitive of all reptilian stocks. The little lizard-shaped tuatara which still lives on the islands off New Zealand, is, in the general sense, a dinosaur and it is much more primitive and comes from an older stock than those two groups which we call dinosaurs in the more restricted sense.

This puts the whole matter in an entirely different light. If the tortoises, the tuatara and the crocodiles have managed to survive from the age of reptiles, there is really no reason why members of the other

Africans always contended [illegible] mosquitoes had something to do with malaria, a fact we proved only quite recently. Others similarly talked about the okapi for a very long time before it was actually shot by a white man.

Sometimes the African's patience with us and our disbelief of things he knows well becomes exhausted, and even he resorts to the writing of official minutes.

The now famous report of the late King Lewanika, of the Barotse tribe, is of this nature. The king, who took great interest in the fauna of his country, constantly heard of a large reptile that lived in the great swamps. He had passed this information on, but, since nobody believed it, he gave strict orders that the next time any of his people saw the animal they were immediately to tell him. After some time three men did so report, saying that they had come across the beast at the edge of a marsh, that it had a long neck and a small, snakelike head and that it had retreated into the swamp on its belly. King Lewanika immediately visited the spot and states in his official minutes that it had left a track in the reeds "as large as a full-sized wagon would make were its wheels removed."

Other native evidence comes from widely separated sources. An experienced white hunter named Stephens, who was also in charge of a long section of the telegraph line which runs along the banks of the Upper Nile, has given a great deal of information about a large, swamp-dwelling reptile known to a number of tribes as the lau. The natives described the animal to Stephens in great detail and more than one of them affirmed that they had been present at the killing of a lau. They variously described it as being between forty and a hundred feet long, but concurred in stating that the body was as big as a donkey, that it was dark yellow in color and that it had a vicious, snakelike head, with large tentacles or wiry hairs with which it reached out to seize its prey. Later a Belgian administrator from the Congo asserted that he had seen a lau several times in a swamp and had shot at it.

The most convincing native account, however, comes from Northern Rho-

[illegible] wrinkles under its neck, a crest like a modern iguana lizard, and a very pronounced, serpentine tongue. At first this fabulous creature was classed along with the winged, human-headed bulls and other fabulous monsters of Babylonian mythology, but profound researches gradually forced the professor to quite a different conclusion.

The creature had the name of the sirrush and the priests were said to have held it in a dark cavern in the temple. It was depicted on the walls of the Ishtar Gate in great numbers and in association with a large, oxlike animal which is now known to have been the extinct aurochs and very definitely a real animal.

When analyzed, allowing for some considerable Babylonian artistic license, [illegible] Carl Hagenbeck's half-elephant-[illegible] dragon, and of the mokele-mbembe, and even of the lau. The single horn on the snout, the scaled hump on the shoulders, the solid forefeet and cloven hindfeet, the long neck and small serpentine head and even the tentacles of the lau all appear in the sirrush.

The final link, however, is that one of Carl Hagenbeck's collectors picked up in Central Africa, in the locality where the chipekwe tales are most prevalent, some glazed bricks of the exact type used in the construction of the Ishtar Gate, and which are, as far as we know, unique to that time and country. This is much less fabulous than it sounds, for there is absolute evidence that seaborne trade had been carried on even by the Sumerians be-

[illegible] ever, [illegible] imply [illegible] geological [illegible] there were many [illegible] tiny ones. The [illegible] just as old and [illegible] larger than many [illegible] tortoises belong to [illegible] primitive of all [illegible] little lizard-shaped [illegible] lives on the islands off New [illegible] in the general sense, a [illegible] is much more primitive and [illegible] an older stock than those two [illegible] which we call dinosaurs in the [illegible] restricted sense.

This puts the whole matter in an entirely different light. If the tortoises, the tuatara and the crocodiles have managed to survive from the age of reptiles, there is really no reason why members of the other groups, some much less primitive and including those that we may choose to call dinosaurs, should not also have survived. The majority of the reptiles disappeared at the end of what is called the Cretaceous period, after which the more active and clever mammals took over. But there is no reason why some might not have lingered on until today in the vast and isolated swamps of Africa—the one part of the world that has remained tropical and comparatively stable since the Cretaceous period and which was almost entirely unaffected by the great ice ages and the mountain-building disturbances of intervening times.

It is indeed a very curious business that merits our consideration and, in my opinion, some active investigation. Can the whole thing be the product of wishful thinking? Can all these big-game hunters, animal collectors, game wardens, and princely African writers of official minutes be pure sensation seekers or under the influence? Did Professor Koldewey just go daft and throw away his high scientific standing with carefree abandon?

There could be dinosaurs alive today, so let us try to maintain what should be the true scientific spirit and simply say that, as yet, there is no positive evidence that they do still exist.

THE END

SIGGS
THE SATURDAY EVENING POST

"Mother—come and see me."

THE SATURDAY EVENING POST

THE CURTIS PUBLISHING COMPANY *CYRUS H. K. CURTIS, President, 1883-1932*

BEN HIBBS, Editor
ROBERT FUOSS, Managing Editor
KENNETH STUART, Art Editor MARTIN SOMMERS, Foreign Editor BEVERLY SMITH, Washington Editor
ASSOCIATE EDITORS: E. N. BRANDT • RICHARD THRUELSEN • STUART ROSE • W. THORNTON MARTIN
DEMAREE BESS • JACK ALEXANDER • FREDERIC NELSON • ARTHUR W. BAUM • HARLEY P. COOK
ROBERT MURPHY • EDGAR SNOW • MARIONE DERRICKSON • WESLEY PRICE • JOHN BAILEY
ROBERT M. YODER • PEGGY DOWST • ERNEST O. HAUSER • H. RALPH KNIGHT • STEVEN M. SPENCER
HUGH MORROW • HARRY T. PAXTON
DAY EDGAR, Assistant to the Editor • WILLIAM J. STEVENS, JR., Assistant Managing Editor
FRANK KILKER, Associate Art Editor • D. H. BORGSTEDT, Photography Editor
EDITORIAL ASSISTANTS: EDWARD H. SAILE • WILLIAM J. BAILEY • MARTHA O. STENGEL
KATHARINE BRITTON • RICHARD L. LEHMAN

IN THIS ISSUE

January 3, 1948 *Vol. 220, No. 27*

4 SHORT STORIES

THE RANSOM OF PETER DRAKE . . . . Jacland Marmur 22
ONE MAN OUT. Richard Stern 24
GIRL AT STAKE . . . . Edward W. O'Brien 29
SUDDEN BETROTHAL . . . . Willis Lindquist 32

NOVELETTE

THE DESERTER . . . . Scott Young 18

8 ARTICLES

THE TWO-FISTED WISDOM OF CHING . . . . Beverly Smith 15
THERE COULD BE DINOSAURS . . . . Ivan T. Sanderson 17
ISLE OF PLUNDER. Lewis Nordyke 20
BRITAIN'S JEERING SECTION. . . . . Ernest O. Hauser 25
THE RUSSIAN BEAR HUGS GREECE . . . . Demaree Bess 26
BASKETBALL'S HOTTEST SHOT. . . . . Russ Davis 28
CRANBERRY HARVEST (A Post Picture Story)
Photography by Art Griffin 30
THE COCONUT KING OF ZAMBOANGA . Harold H. Martin 34

2 SERIALS

THIS IS MY SON (Fourth of eight parts) .Clarence Budington Kelland 36
WITHOUT WITNESS (Sixth of seven parts). . . Mary Hastings Bradley 40

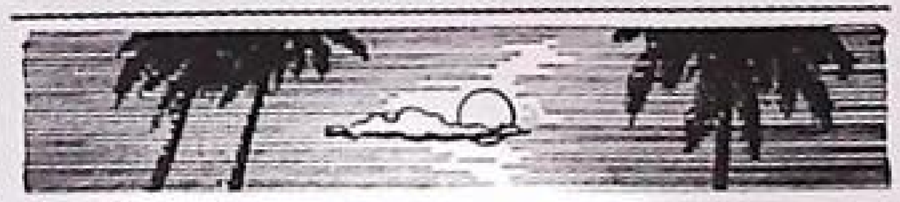
"LESS THAN 6¢ PER SQUARE FOOT"
PROTECT your floors
Bird RUBBERLIKE®
PATENTED NON-RUBBER CONSTRUCTION
Runner.
BIRD

Built to protect heavy traffic spots, quiet, safe, easy on the feet, easy to clean—*that's* Bird Rubberlike Runner.

Inexpensive, long-wearing, good looking, won't curl, hugs the floor — *that's* Bird Rubberlike Runner.

Thousands of stores, hospitals, railroads, office buildings, factories and other delighted users. See it at home furnishing, hardware and department stores in 27" and 36" widths and write us for *Free* Booklet. . . . Bird & Son, inc., 143 Washington Street, East Walpole, Mass.

NO HULLS!
A SPECIAL POP CORN FOR HOME POPPING
JOLLY TIME
POP CORN
JOLLY TIME POP CORN



ONE MAN OUT . . . . Richard Stern 24
GIRL AT STAKE . . . . Edward W. O'Brien 29
SUDDEN BETROTHAL . . . . Willis Lindquist 32

NOVELETTE

THE DESERTER . . . . Scott Young 18

8 ARTICLES

THE TWO-FISTED WISDOM OF CHING . . . . Beverly Smith 15
THERE COULD BE DINOSAURS . . . . Ivan T. Sanderson 17
ISLE OF PLUNDER. Lewis Nordyke 20
BRITAIN'S JEERING SECTION. . . . . Ernest O. Hauser 25
THE RUSSIAN BEAR HUGS GREECE . . . . Demaree Bess 26
BASKETBALL'S HOTTEST SHOT. . . . . Russ Davis 28
CRANBERRY HARVEST (A Post Picture Story)
Photography by Art Griffin 30
THE COCONUT KING OF ZAMBOANGA . . . . Harold H. Martin 34

2 SERIALS

THIS IS MY SON (Fourth of eight parts) .Clarence Budington Kelland 36
WITHOUT WITNESS (Sixth of seven parts). . . Mary Hastings Bradley 40

OTHER FEATURES

LETTERS 4
KEEPING POSTED 10
REPORT TO THE EDITORS . . 12
POST SCRIPTS. 38
VERSE 64, 71, 74, 76, 79, 82
EDITORIALS 92

THIS WEEK'S COVER

No one who lives in a big-city apartment house has to be content with his own observance of New Year's. He takes part willingly or not in parties above, below, and across the way. What interested John Falter was the possibility of showing the new year's arrival as it touched seven or eight homes, all in compact layers. He seems to have covered all ages, from the baby to old age, in the person of the old gentleman alone except for his hunting trophies. The scene is more or less based on Gramercy Park, New York, where Falter occupies a second-story apartment. It's our opinion that at the hour in question the old gent's moose head probably is making more sense than most of the more animate characters.

The Saturday Evening Post, copyrighted 1947 by The Curtis Publishing Company in U. S. and Great Britain. All rights reserved. Title registered in U. S. Patent Office and foreign countries.

Published weekly by The Curtis Publishing Company, Independence Square, Philadelphia, Pa. Entered as Second Class Matter, November 18, 1879, at the Post Office at Philadelphia under the Act of March 3, 1879. Entered as Second Class Matter at the Post Office Department, Ottawa, Canada, by Curtis Distributing Company, Ltd., Toronto, Ont., Canada.

Subscription prices: U. S. and Possessions, Canada, Newfoundland and Labrador, Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Mexico, Nicaragua, Panama, Philippine Islands, Republic of Honduras, Salvador, Spain and South America except the Guianas, 1 Yr., $6; 2 Yrs., $10; 3 Yrs., $14; 4 Yrs., $18. Other Countries, 1 year, $11. Remit by Money Order or Draft on a bank in the U. S. payable in U. S. Funds. All prices subject to change without notice. All subscriptions must be paid for in advance.

Unconditional Guaranty. We agree, upon request direct from subscribers to the Philadelphia office, to refund the full amount paid for any copies of Curtis publications not previously mailed.

The Curtis Publishing Company, Walter D. Fuller, President; Arthur W. Kohler, Vice-President and Advertising Director; Mary Curtis Zimbalist, Vice-President; Cary W. Bok, Vice-President and Treasurer; Lewis W. Trayser, Vice-President and Director of Manufacturing; Benjamin Allen, Vice-President and Director of Circulation; Robert E. MacNeal, Secretary; Morton Bailey, Manager of The Saturday Evening Post. The Company also publishes Ladies' Home Journal, Country Gentleman, Jack and Jill, and Holiday.

Send your Post change of address to

THE SATURDAY EVENING POST
INDEPENDENCE SQUARE, PHILA. 5, PA.

at least 30 days before the date of the issue with which it is to take effect. Send old address with the new, enclosing if possible your address label. The Post Office will not forward copies unless you provide extra postage. Duplicate copies cannot be sent.

The names of characters used in all Post fiction and semi-fiction articles are fictitious. Any resemblance to a living person is a coincidence.

Bird RUBBERLIKE ®
PATENTED NON-RUBBER CONSTRUCTION
Runner
BIRD

NO HULLS!
A SPECIAL POP CORN FOR HOME POPPING
JOLLY TIME POP CORN

INVITATION TO Roamantic LIVING

It's your own permanent home, wherever you wish to settle . . . your deluxe living accommodations in glamorous new cities . . . your cozy seaside cottage . . . your hunting lodge amid the pine-clad mountains.

Yes, the PLATT *Trail-A-Home* is truly your Invitation to Roamantic Living — and to fine, comfortable living as well. Think of it! A beautifully furnished living room . . . a full kitchen with electric refrigerator, bottled-gas range, closets galore, and *hot* water . . . a large bedroom with big double bed . . . a bathroom including wash stand, shower and toilet — all this PLUS the mobility that lets you move wherever you wish!

WRITE FOR NEW CATALOG FREE

NO LIVING COULD BE FINER

PLATT TRAILER CO., INC.
Dept. 781 ELKHART, INDIANA

MAGAZINE: THE SATURDAY EVENING POST
DATE: 3 JANUARY 1948, VOL. 220, #27
PAGES: 17, 53, 56
ARTICLE: THERE COULD BE DINOSAURS
AUTHOR: IVAN T. SANDERSON

MAGAZINE: THE SATURDAY EVENING POST
DATE: 15 JULY 1944, VOL. 216, #3
PAGES: 4

Photo by courtesy of Westinghouse Electric and Manufacturing Company

Tailoress to weapons of war! With a smooth-biting file and a deft touch, this Naval Ordnance plant worker painstakingly shapes the threads on the loading end of a gun barrel—to provide a form-fit for the breech when it is locked in the recoil mechanism.

This is precision work that calls for files of the standards of quality and uniformity that have made Nicholson and Black Diamond the most widely used brands in all the world.

A file made by Nicholson means a file made by specialists. For 80 years, Nicholson has manufactured nothing but files, file accessories, and improved machinery for cutting its files.

Nicholson engineers go into the designing of a new type of file with the study and testing that rate with fine-instrument making. Thus, to keep pace with new industrial materials, methods and production problems, Nicholson can offer more distinctive special-purpose files than any other manufacturer. With *The right file for the job,* Nicholson also guarantees *Twelve perfect files in every dozen.*

"FILE FILOSOPHY"—this book FREE to production and purchasing heads, foremen, key mechanics, machine and repair shop operators . . . 48 pages.

NICHOLSON FILE COMPANY, 46 Acorn St.
Providence 1, R. I., U. S. A.
(Also Canadian Plant, Port Hope, Ont.)

NICHOLSON FILES FOR EVERY PURPOSE

NICHOLSON U.S.A. MADE IN U.S.A.

and the daily program noted above. Mrs. Knackstedt likes to cook, and there, she says, her natural domesticity ends. "I'd rather take on Joe Louis for ten fast rounds," she adds, "than do the dishes. I do them, but I feel mighty noble about it."

Animal Treasurer

IVAN T. SANDERSON (THE MYSTERY OF MIGRATION, page 12) lives in a constant and generically British fear that somebody is going to refer to him as an explorer. When somebody invariably does, Mr. Sanderson's ego, reared in the strict British tradition of understating itself, is appalled and blushes an abashed red.

Mr. Sanderson admires explorers and their intrepid footwork on tundras. His point is, though, that he is not an explorer, but merely a zoologist who ranges through tropical jungles, bat caves and other geographical esoterica to observe animal life, and it affronts his sense of sportsmanship to be given credit for being something he isn't. That he must often live under primitive conditions, meet a good many dangers and tarry in the forbidden areas of medical maps, that he is constantly exploring for new scientific data, doesn't affect the matter. It is a nuance difficult for the American mind and dictionary to grasp, but there it is. Quite.

But if Mr. Sanderson understates himself, he doesn't understate animal life. He states it flowingly and with the rapidity and eloquence of a man quietly possessed. This department, which has always been happily ignorant of zoology and has wanted no part of it, whether it be collecting moths or dissecting the gastrointestinal tract of a katydid *(Platyphyllium concavum),* nevertheless left Mr. Sanderson, after our talk with him, resolved to become a better zoologist or know the reason why. We shan't, of course, but our resolve was awfully firm at the time. For Ivan Sanderson is one of the persons you meet, a few times in your life with very good luck, who love their work enough to make it come alive and have starry-eyed children by it.

He was born in Edinburgh in 1911, began traveling with his parents at the age of five, and at fourteen was traveling on his own. He attended, he told us, while his ego was hiding behind an old raincoat in the closet, "a school called Eton."

He left Eton at sixteen and took a year off before going to Cambridge to make a one-man expedition across the world to the Dutch East Indies.

Before planning the expedition, he had consulted friends at the British Museum about the best kind of animal to go for—in a sixteen-year-oldish sort of way he had thought of tigers. The Museum sighed and said "No, no tigers, please." The Museum was tired of tigers. "You collect rats," it advised. So in the Indies young Sanderson picked up a native helper and, lacking a pied pipe, went after rats the hard way.

to Latin America with high-powered rifles, it's absolute rubbish. There's nothing to shoot with them except jaguars, and you can shoot them with a shotgun just as well. The natives do."

Hurricanes and typhoons? You don't notice them, except as part of the day's work, though a hurricane at sea, Mr. Sanderson was forced to admit, is "quite exciting." He frequently experiences fear, just as anybody does.

"If you're going through the bush at night and hear a stick crack, you're a damned fool if you don't jump."

Mr. Sanderson does not think of himself as a traveler any more than he thinks of himself as an explorer.

"All that we (his wife, also a zoologist, accompanies him) were doing before the war was simply a way of life with us," he says. "We did not regard our trips as expeditions. They were simply our work. Going back to England was an expedition. It meant packing up everything, complete disruption."

Mr. Sanderson has two hobbies—sailing and decorating night clubs. On his prewar expeditions to England, he indulged both. He holds the probably unique view that night clubs are the best place to find companions for his jungle ventures. As he explained in Animal Treasure, in selecting persons to take with him, he first weeds out young zoologists, "because there is nobody with less imagination or more hidebound notions of procedure than the average young zoologist." Even more rigorously he bars athletes, sportsmen and anybody who is "large, beefy or tough." Having thus winnowed the anemic wheat from the robust chaff, he selects from it those who are at ease in smoky bars, airless cabarets and crowded subway trains, on the theory that "a man who can live in smoky cabarets can live anywhere, unless he is already starting to die." However unorthodox all this may sound, it has worked with unvarying success for Mr. Sanderson.

Sanderson has completed ten years' work of a twenty-year project he laid out for himself, a program of research necessitating visits to the entire earth to study the distribution of animals and vegetation in relation to men's civilizations.

"You can see the beginnings of our form of civilization in any group of animals which live together," he says. War, he believes, is not a natural biological process, but a disease, the result of man's toying with too many ideas and drifting away from the basic things of life. Man, he holds, is primarily interested in three things—a person of the opposite sex, God and eating—and any enduring economy must start from there. Mr. Sanderson's Utopia offers no haven or visa to the atheistic and dyspeptic capon, but under his ideal economy there probably wouldn't be any.

MAGAZINE: THE SATURDAY EVENING POST
DATE: 15 JULY 1944, VOL. 216, #3
PAGES: 4
DEPARTMENT: KEEPING POSTED

SHE FORM-FITS BREECHES FOR ANTI-AIRCRAFT GUNS

Photo by courtesy of Westinghouse Electric and Manufacturing Company

TAILORESS to weapons of war! With a smooth-biting file and a deft touch, this Naval Ordnance plant worker painstakingly shapes the threads on the loading end of a gun barrel—to provide a form-fit for the breech when it is locked in the recoil mechanism.

This is precision work that calls for

Keeping Posted

Author From 9 to 12

AS ADA MARIE FAIRCHILD, the name she grew up with, the author of HE COULD MAKE A WILLOW WHISTLE (page 21) writes stories. As Mrs. Theodore Emmett Knackstedt, she Victory-gardens, attends Red Cross classes, is office manager for an automotive-parts business, shops, cooks, keeps house for her husband and rears a son, Kenn. On evenings when she can snatch the time, Mrs. Knackstedt is Ada Marie Fairchild from nine to midnight.

Before her marriage, Miss Fairchild did newspaper work in her home town, Yreka, California, and was bitten with lasting effect by the writing bug. A little later she was bitten by the equally potent husband-home-and-children bug.

"A few years ago," she told us, "we moved to Oregon and built a home in the country. This, my husband and I told ourselves, was to be a place we could enjoy—absolute peace and quiet, trees, flowers, birds and us, sitting under the big oaks, taking life easy." At this point, Mrs. Knackstedt pauses to note sardonic laughter in the wings. Came the war—and the daily program noted above. Mrs. Knackstedt likes to cook, and there, she says, her natural domesticity ends. "I'd rather take on Joe Louis for ten fast rounds," she adds, "than do the dishes. I do them, but I feel mighty noble about it."

Animal Treasurer

IVAN T. SANDERSON (THE MYSTERY OF MIGRATION, page 12) lives in a constant and generically British fear that somebody is going to refer to him as an explorer. When somebody invariably does, Mr. Sanderson's ego, reared in the strict British tradition of understating itself, is appalled and blushes an abashed red.

Mr. Sanderson admires explorers and their intrepid footwork on tundras. His point is, though, that he is not an explorer, but merely a zoologist who ranges through tropical jungles, bat caves and other geographical esoterica to observe animal life, and it affronts his sense of sportsmanship to be given credit for being something he isn't. That he must often live under primitive conditions, meet a good many dangers and tarry in the forbidden areas of medical maps, that he is constantly exploring for new scientific data, doesn't affect the matter. It is a nuance He got enough to warm the heart cockles of the rat-minded gentlemen at the Museum.

In the years which followed, Mr. Sanderson's work took him to Cochin-China, where he visited ruins, on a walk through northern Indo-China, to Japan, the United States. He took a Percy Sladen expedition to the Cameroons in West Africa and told its story in Animal Treasure (1937), a Book-of-the-Month-Club selection. Two subsequent books, Caribbean Treasure (1939) and Living Treasure (1941) tell of animals met and studied in Haiti, Dutch Guiana, Jamaica, British Honduras and Mexico. His animal drawings illustrate all three books. For one of his expeditions and for subsequent use, he bought the hull of a schooner lying at the bottom of the sea, raised and reconditioned it for service. The war put a temporary end to his work.

Mr. Sanderson turns a cold and fishy eye on high-powered riflemen in sun helmets who go into the jungle and emerge to write stirring pieces under such titles as I Fought With a Gorilla or a Python, as the Case May Be. He says a leopard is about the worst thing you're likely to walk into.

"You don't go about dressed in a pith helmet—the vines in the jungle would knock it off in a minute—or carrying a high-powered rifle. When people go off to Latin America with high-powered rifles, it's absolute rubbish. There's nothing to shoot with them except jaguars, and you can shoot them with a shotgun just as well. The natives do."

Hurricanes and typhoons? You don't notice them, except as part of the day's work, though a hurricane at sea, Mr. Sanderson was forced to admit, is "quite exciting." He frequently experiences fear, just as anybody does.

"If you're going through the bush at night and hear a stick crack, you're a damned fool if you don't jump."

Mr. Sanderson does not think of himself as a traveler any more than he thinks of himself as an explorer.

"All that we (his wife, also a zoologist, accompanies him) were doing before the war was simply a way of life with us," he says. "We did not regard our trips as expeditions. They were simply our work. Going back to England was an expedition. It meant packing up everything, complete disruption."

Mr. Sanderson has two hobbies—sailing and decorating night clubs. On his prewar expeditions to

THE SATURDAY EVENING POST

THE CURTIS PUBLISHING COMPANY

CYRUS H. K. CURTIS, President, 1883-1932

BEN HIBBS, Editor
ROBERT FUOSS, Managing Editor

KENNETH STUART, Art Editor • MARTIN SOMMERS, Foreign Editor • BEVERLY SMITH, Washington Editor

ASSOCIATE EDITORS: E. N. BRANDT • RICHARD THRUELSEN • STUART ROSE • W. THORNTON MARTIN
DEMAREE BESS • JACK ALEXANDER • FREDERIC NELSON • ARTHUR W. BAUM • HARLEY P. COOK
ROBERT MURPHY • EDGAR SNOW • MARIONE DERRICKSON • WESLEY PRICE • JOHN BAILEY
ROBERT M. YODER • PEGGY DOWST • ERNEST O. HAUSER • H. RALPH KNIGHT • STEVEN M. SPENCER

DAY EDGAR, Assistant to the Editor • FRANK KILKER, Associate Art Editor • D. H. BORGSTEDT, Photography Editor

EDITORIAL ASSISTANTS: EDWARD H. SAILE • HUGH MORROW • HARRY T. PAXTON
CAROLA KING • WILLIAM J. STEVENS, JR. • WILLIAM J. BAILEY • EDITH KEENAN

IN THIS ISSUE

MARCH 8, 1947 *Vol. 219, No. 36*

4 SHORT STORIES

BARRY WARD'S BEARD . . . . Robert E. Pinkerton 20
THE GIRL AND THE GENIUS . . . . Herbert Depew 24
FAIR-CAUGHT . . . . Philip Wylie 29
PAMELA MAKES UP THEIR MINDS . . . . Ruth Rankin Lamson 36

8 ARTICLES

MR. NATIONAL DEFENSE . . . . Beverly Smith 18
DON'T SCOFF AT SEA MONSTERS . . . . Ivan T. Sanderson 22
AUSTRALIA WAKES UP A PACIFIC POWER . . . . . . Harold J. Noble 25
MEXICO'S BASEBALL RAIDERS RIDE AGAIN . . . . . Milton Bracker 26
BROADWAY'S NEW MATINEE IDOL . . . . Stanley Frank 28
THE MILLIONAIRES' BEST FRIEND . . . . Roger Butterfield 30
NOBODY WANTS TO BE A COAL MINER . . . . Samuel Lubell 34
THE ALLEY FIGHTERS OF THE 96th . . . . Orlando Davidson 38

2 SERIALS

FINAL CURTAIN (First part of six) . . . . Ngaio Marsh 15
BARRACUDA (Fourth part of seven). . . . . Richard Powell 42

OTHER FEATURES

METRO-GOLDWYN-MAYER'S
The LION'S ROAR

Published in this space every month

The greatest star of the screen!

At last!

★ ★ ★ ★

The world is going to see the dramatic picturization of the most hush-hush secret of all time.

★ ★ ★ ★

M-G-M has made the picture of pictures, "The Beginning or the End"—the story of the beginning of a new civilization or the end of civilization itself—the dramatic story of the atomic bomb.

★ ★ ★ ★

When you see "The Beginning or the End", you'll virtually become a part of the events that were so fraught with drama, danger, and above all—suspense.

★ ★ ★ ★

You'll step behind the iron curtain of secrecy and enter the forbidden city at Oak Ridge.

★ ★ ★

You'll meet the girl who lost her identity—the only girl who knew the terrifying secret.

★ ★ ★

You'll meet the men who enrolled in the army of mystery.

★ ★ ★ ★

And you will know, too, the nerve-fraying tension of their relentless race against time.

★ ★ ★ ★

Here is the story of the hour, the burning topic of the moment, the greatest "must" picture in the history of all motion pictures.

THE GIRL AND THE GENIUS . . . . Herbert Depew 24
FAIR-CAUGHT . . . . .Philip Wylie 29
PAMELA MAKES UP THEIR MINDS . . . . Ruth Rankin Lamson 36

8 ARTICLES

MR. NATIONAL DEFENSE . . . . .Beverly Smith 18
DON'T SCOFF AT SEA MONSTERS. . . . . .Ivan T. Sanderson 22
AUSTRALIA WAKES UP A PACIFIC POWER . . . . . . Harold J. Noble 25
MEXICO'S BASEBALL RAIDERS RIDE AGAIN . . . . . Milton Bracker 26
BROADWAY'S NEW MATINEE IDOL . . . . .Stanley Frank 28
THE MILLIONAIRES' BEST FRIEND . . . . Roger Butterfield 30
NOBODY WANTS TO BE A COAL MINER . . . . Samuel Lubell 34
THE ALLEY FIGHTERS OF THE 96th . . . . Orlando Davidson 38

2 SERIALS

FINAL CURTAIN (First part of six) . . . . Ngaio Marsh 15
BARRACUDA (Fourth part of seven). . . . . Richard Powell 42

OTHER FEATURES

LETTERS. 4
KEEPING POSTED 10
REPORT TO THE EDITORS . . 12
POST SCRIPTS 40
POETRY . . 51, 101, 118, 126, 134, 142
EDITORIALS 148

THIS WEEK'S COVER

Maybe it ought to be a little bluer. Or perhaps a little greener. Or maybe a little grayer. It's an anxious moment in spring redecorating that Artist Stevan Dohanos has portrayed in his cover painting, and he is strictly neutral. "It's tough on painters," he said diplomatically, "but it's tough for the housewife too. It is easier to get the exact color on canvas than it is on a wall."

Posing as the painter is James Moore, of Weston, Connecticut, who is one. Dohanos hired him both to pose and to decorate. Mrs. Russell Kuhner, of Westport, is the housewife.

Decorating an artist's home sounds like a tough assignment, but Dohanos swears it's easy. An artist has so much trouble with color himself that a painter's problems arouse real sympathy.

The Saturday Evening Post, copyrighted 1947 by The Curtis Publishing Company in U. S. and Great Britain. All rights reserved. Title registered in U. S. Patent Office and foreign countries.

Published weekly by The Curtis Publishing Company, Independence Square, Philadelphia, Pa. Entered as Second Class Matter, November 18, 1879, at the Post Office at Philadelphia under the Act of March 3, 1879. Entered as Second Class Matter at the Post Office Department, Ottawa, Canada, by Curtis Distributing Company, Ltd., Toronto, Ont., Canada.

Subscription prices: U. S. and Possessions, Canada, Newfoundland and Labrador, Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Mexico, Nicaragua, Panama, Republic of Honduras, Salvador, Spain and South America except the Guianas, 1 Yr., $5; 2 Yrs., $7.50; 3 Yrs., [illegible] 4 Yrs., $12. Other Countries, 1 year, $9. Remit by Money Order or Draft on a bank in the U. S. payable in U. S. Funds. All prices subject to change without notice. All subscriptions must be paid for in advance.

Unconditional Guaranty. We agree, upon request direct from subscribers to the Philadelphia office, to refund the full amount paid for any copies of Curtis publications not previously mailed.

The Curtis Publishing Company, Walter D. Fuller, President; Fred A. Healy, Vice-President and Advertising Director; Mary Curtis Zimbalist, Vice-President; Cary W. Bok, Vice-President and Treasurer; Lewis W. Trayser, Vice-President and Director of Manufacturing; Benjamin Allen, Vice-President and Director of Circulation; Robert E. Mac- [illegible] Arthur W. Kohler, Manager of The Saturday Evening Post. The Company also publishes Ladies' Home Journal, Country Gentleman, Jack and Jill, and Holiday.

Change of address: Send change of address (naming magazine) to

THE CURTIS PUBLISHING COMPANY
INDEPENDENCE SQUARE, PHILA. 5, PA.

at least 30 days before the date of the issue with which it is to take effect. Send old address with the new, enclosing if possible your address label. The Post Office will not forward copies unless you provide extra postage. Duplicate copies cannot be sent.

The names of characters used in all Post fiction and semi-fiction articles are fictitious. Any resemblance to a living person is a coincidence.

* * *

You'll meet the girl who lost her identity—the only girl who knew the terrifying secret.

* * *

You'll meet the men who enrolled in the army of mystery.

* * * *

And you will know, too, the nerve-fraying tension of their relentless race against time.

* * * *

Here is the story of the hour, the burning topic of the moment, the greatest "must" picture in the history of all motion pictures.

M-G-M has assembled top talent for this mighty production. Brian Donlevy, Robert Walker, Tom Drake and Beverly Tyler (the celebrated "Green Years" lovers), beautiful Audrey Totter, Hume Cronyn and many more. Each contributes an unforgettable performance.

* * * *

To Producer Samuel Marx, Director Norman Taurog, and to the many others who had their part in picturizing the greatest drama of our time, we offer congratulations on an entertainment unique in motion pictures.

"The Beginning or the End" is tremendous from beginning to end!

—Leo

MAGAZINE: THE SATURDAY EVENING POST
DATE: 8 MARCH 1947, VOL. 219, #36
THIS IS PAGE: 3

Don't Scoff at Sea Monsters

By IVAN T. SANDERSON

Many reliable witnesses, including preachers and scientists, have seen nightmare creatures rising from the deep. Analyzing a fascinating mystery, an expert presents evidence that will make you wonder if this fable is not a fantastic fact.

FOR hundreds of years, if not since the dawn of history, people have believed that there are great, unknown animals in the sea. These used to be called sea serpents, but are nowadays more popularly referred to as sea monsters.

What is more, it can be shown that a report of such a beast has come from some part of the world almost every year since 1800. In some years there have been as many as half a dozen, and they increase rather than diminish in number, so that the body of so-called evidence has now reached a point where even the august Encyclopædia Britannica states: "When, however, all these and similar possibilities have been explored, there still remain a number of independent and apparently credible stories which are not satisfactorily explained." Such a statement challenges us to inquire what these credible stories might be and, on inquiry, they turn out to be amazing.

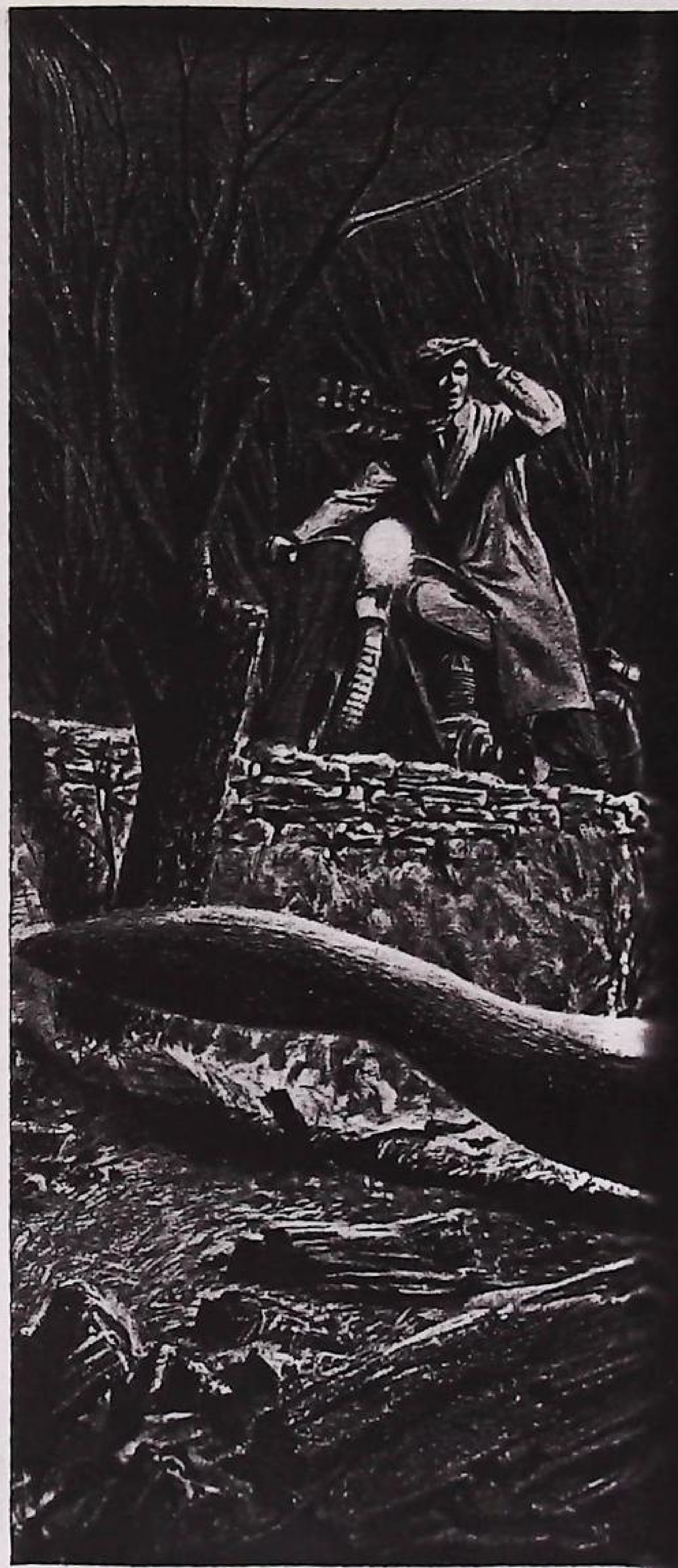
One cannot but feel a certain element of doubt and a not inconsiderable sense of shock when, upon setting out to examine these "credible stories," we read a detailed statement made by a Capt. F. W. Dean, of the Royal Navy, on an incident that occurred on the morning of May 22, 1917, aboard the armed merchant cruiser, the Hilary, off Iceland, while maintaining the blockade between the Scottish coast and the Arctic iceline during World War I.

This statement, duly signed and witnessed, may be read in any one of several books and articles on the subject. It states that at nine o'clock on a clear sunny morning, the officer of the watch reported to Captain Dean that there was something moving off the starboard quarter. Upon examination through glasses, this was seen to be an animal, and the ship was turned toward it, passing within thirty yards.

This case presents the most typical features of almost all reports of the supposed unknown sea animal—the seal-like head, the serpentine neck and the great size. These are important points, as we shall see presently, for they fly directly in the face of the most convincing explanations put forward by trained zoologists.

If we dig back into the distant past of almost any race or people, we seldom fail to stumble upon some evidence of serpent worship, with its attendant mysteries and horrors so productive of rigid taboo and later of superstition and myth. Continental peoples believed in monstrous snakes beyond their borders, while maritime peoples envisaged them in the sea. Thus it was only natural that tales of fabulous serpents, often with the horrific attributes of dragons, dwelling in the deeps and occasionally coming up to pluck benighted mariners from cranky boats, grew up along most seaboards.

About the sixteenth century, however, the precepts of modern science, founded on observation of fact and deduction therefrom, brought forth, among other things, the first real attempts to describe the animal life of the world. These early writings produced a quota of quite fabulous nonsense and hearsay. Among the latter were descriptions of great sea serpents which took their places in seriously intended treatises on zoology as recognized animal species. They were described as being immense, scaly reptiles of prodigious dimensions that enveloped whole ships. Supported thus by the early fumblings of science, the ancient belief in the great sea serpent became still further fixed in the popular fancy. At the same time, however, it was also instilled into scientific thought, but for quite contrary reasons. These reasons only became apparent two



port of a large unknown animal in the sea, especially if described as snakelike, was either a hoax, a delusion, a lie or a case of mistaken identity.

[illegible] these and similar possibilities have been explored, there still remain a number of independent and apparently credible stories which are not satisfactorily explained." Such a statement challenges us to inquire what these credible stories might be and, on inquiry, they turn out to be amazing.

One cannot but feel a certain element of doubt and a not inconsiderable sense of shock when, upon setting out to examine these "credible stories," we read a detailed statement made by a Capt. F. W. Dean, of the Royal Navy, on an incident that occurred on the morning of May 22, 1917, aboard the armed merchant cruiser, the Hilary, off Iceland, while maintaining the blockade between the Scottish coast and the Arctic iceline during World War I.

This statement, duly signed and witnessed, may be read in any one of several books and articles on the subject. It states that at nine o'clock on a clear sunny morning, the officer of the watch reported to Captain Dean that there was something moving off the starboard quarter. Upon examination through glasses, this was seen to be an animal, and the ship was turned toward it, passing within thirty yards. The whole crew observed it closely and estimated it to be at least sixty feet long and to have a long, slender neck, at least twenty feet in length, which it could turn in a semicircle. Its head looked like that of a seal; it was slick and shiny, and had a tall, triangular, flabby dorsal fin that turned over like "the tip of a terrier's ear when cocked." They used it as a target for antisubmarine gunnery practice and finally "sank" it.

Captain Dean, in answer to a very specific questionnaire, later stated that this creature could not have been any kind of whale or shark; nor could it have been a giant ribbonfish— a species that is believed to grow to twenty feet in length. These are the usual explanations of such creatures.

peoples believed in monstrous snakes beyond their borders, while maritime peoples envisaged them in the sea. Thus it was only natural that tales of fabulous serpents, often with the horrific attributes of dragons, dwelling in the deeps and occasionally coming up to pluck benighted mariners from cranky boats, grew up along most seaboards.

About the sixteenth century, however, the precepts of modern science, founded on observation of fact and deduction therefrom, brought forth, among other things, the first real attempts to describe the animal life of the world. These early writings produced a quota of quite fabulous nonsense and hearsay. Among the latter were descriptions of great sea serpents which took their places in seriously intended treatises on zoology as recognized animal species. They were described as being immense, scaly reptiles of prodigious dimensions that enveloped whole ships. Supported thus by the early fumblings of science, the ancient belief in the great sea serpent became still further fixed in the popular fancy. At the same time, however, it was also instilled into scientific thought, but for quite contrary reasons. These reasons only became apparent two centuries later, and were as follows:

As the fauna of the world was catalogued, it became obvious to serious students of natural history, and subsequently to the public at large, that the old accounts of fabulous, 1000-foot, marine serpents were but figments of our ancestral imagination. A gigantic reaction of wholesale skepticism set in, which has risen like a tide until today, and which shows no signs of abating. Nor can the validity of this outlook be seriously questioned, for with airplanes and modern shipping crisscrossing every sea on the globe almost daily, it is manifest that no such monstrous reptiles can be. Thus science, not unreasonably, adopted the attitude that not only was the great sea serpent a fable but also that any report of a large unknown animal in the sea, especially if described as snakelike, was either a hoax, a delusion, a lie or a case of mistaken identity.

At the same time the public—that is, all persons other than zoologists, who might or might not know the difference between a whale, a seal, a shark and a ribbonfish—had only the myth of the great sea serpent to fall back upon when and if they saw something unknown to them in the sea. Thus we find that up till the middle of the nineteenth century nearly all reports start off with the statement: "I saw a strange marine animal, that I believe to be a serpent"—*vide*, all affidavits collected around 1817 by the Linnaean Society, of Boston, from eyewitnesses to the famous unknown animal's visit to Gloucester harbor during that year.

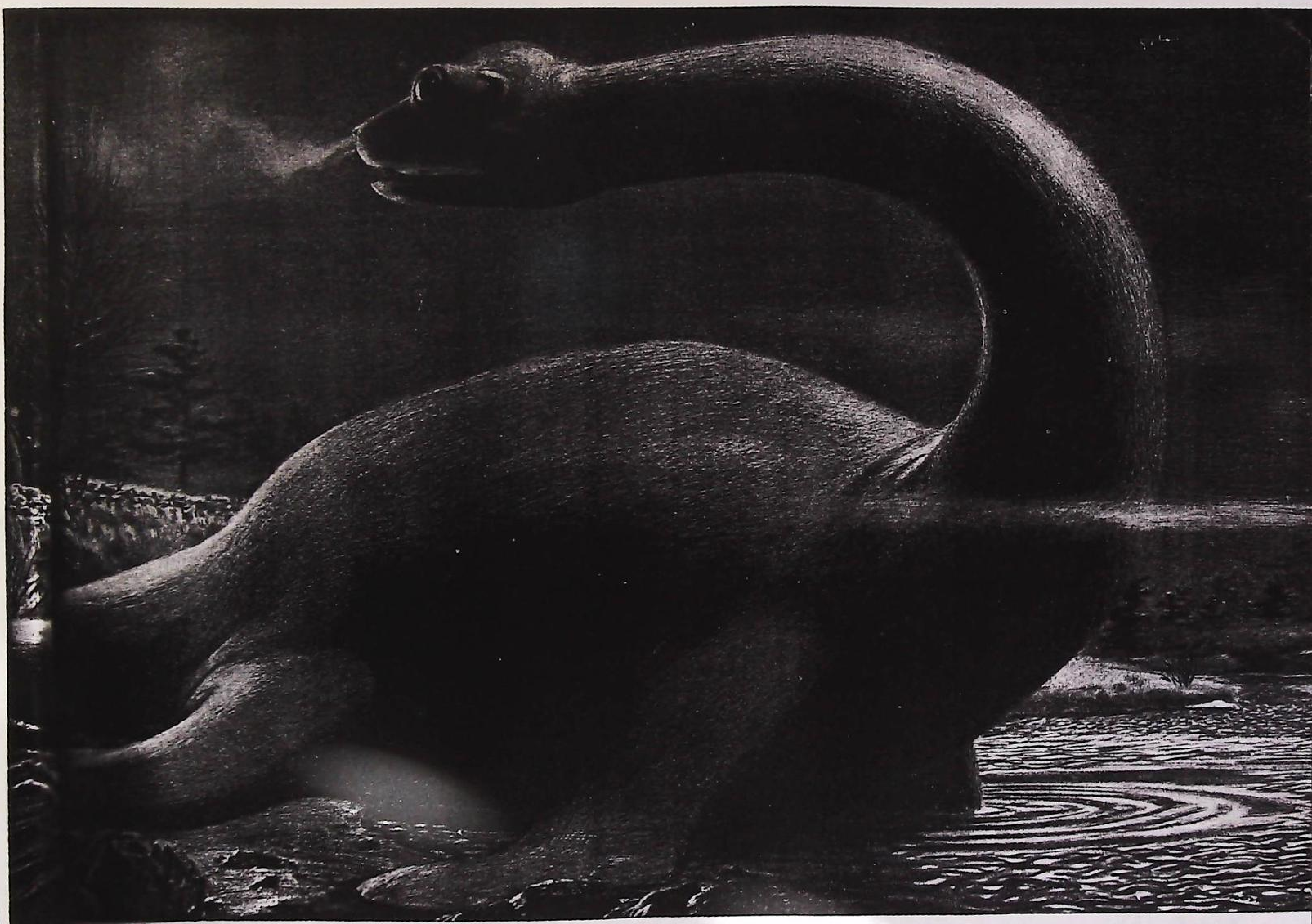
Skeptics, believers and ordinary folk who try to preserve an open mind on this most enigmatical subject must therefore beware of the ancient and evil influence of this term "sea serpent" when weighing the evidence of any report on the subject of an as yet unknown animal of the sea.

It must be clearly understood, therefore, that the "credible stories" of which the Encyclopædia Britannica speaks are in no case concerned with "sea serpents" as such. Such reports as warrant serious consideration by zoologists concern simply any marine animal—usually of considerable length but apparently never of greater bulk than the blue whale—that is stated to exist, but which has not, as yet, fallen, either dead or alive, into the hands of any competent scientist or museum curator. Whether any such animals have ever been seen or not, and if so, whether they represent only a single type or several is another matter, and one which we will now proceed to examine.

ABOUT THE AUTHOR

Few subjects have aroused more controversy—some of it wonderfully acrimonious—than the possible existence of sea monsters. There is little concrete evidence that they live; but Ivan Sanderson has reviewed the findings and concludes that we had better not write them off on that account. Post readers have met Mr. Sanderson before. A recognized zoologist, he has contributed several articles to this magazine, the last being THE RIDDLE OF THE MAMMOTHS, which appeared December 7, 1946. He is the author of three widely read books on zoology and exploration, all of which were illustrated by himself.

—*The Editors.*

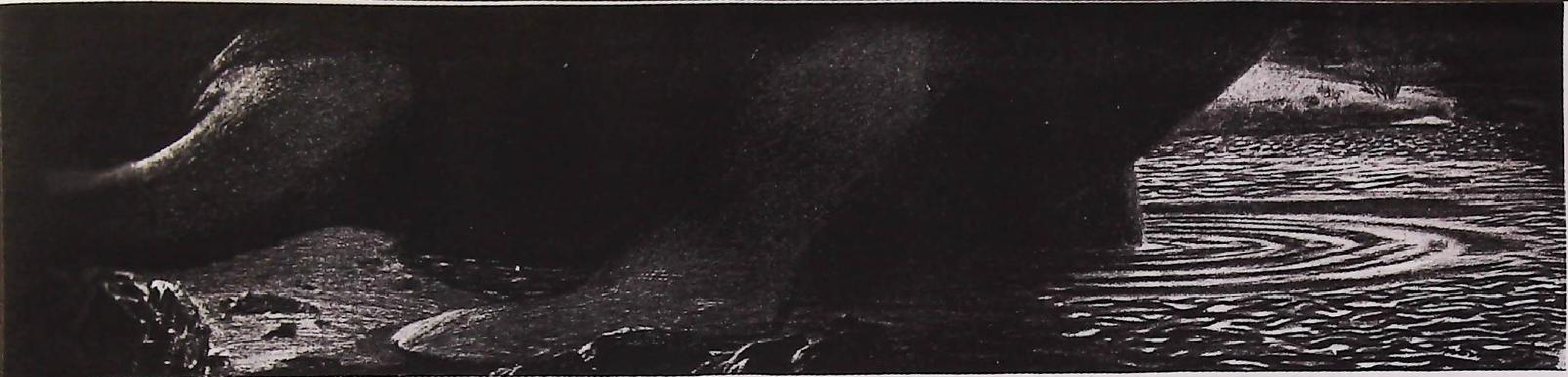


"A veterinary student named Arthur Grant declared that, while motorcycling along the lake at 1:30 in the morning, he had seen the animal on shore."

Now, as one who was brought up on the sea, has [illegible] for months on end, and has spent a great

highly dangerous in zoological prognostication, came to light in 1938. In that year a nine-foot fish, [illegible] Latimeria, which was trawled from

saw fit to publish the accounts of two trained zoologists named E. G. B. Meade-Waldo and M. J. Nicoll, who therein claim in no uncertain terms that



"A veterinary student named Arthur Grant declared that, while motorcycling along the lake at 1:30 in the morning, he had seen the animal on shore."

ILLUSTRATION BY PAUL NONNAST

Now, as one who was brought up on the sea, has lived on it for months on end, and has spent a great deal of time sailing, steaming or flying over its surface, but who has never seen nor ever expects to see an unknown sea monster, I must admit to having been profoundly shaken by what I have found to be recorded on this subject. This surprise, moreover, is caused not so much by the 200-odd reports of eyewitnesses, some of which might conceivably be accepted as valid, nor even by the remarkable degree of concurrence among them—although they come from all over the world and are made by people who have never heard of any other such reports—but more especially by two other facts which show that the skeptics may any day be reduced to naught.

The first of these is the now indubitably established fact that the once-fabled kraken, which was scoffed at by everybody as a figment of Norwegian fishermen's imagination, is a real animal and quite common. It has turned out to be a tremendous squid, an animal of the same order of shellfish as the octopus, with a body weighing, on occasion, as much as one and a half tons, twenty feet in length and with tentacles up to thirty-five feet long. The most disturbing aspect, to my mind, about this complete collapse of all disbelief in the kraken is, however, the fact that even before a certain Professor Verrill, by producing the body, convinced the scientific world that it really existed, pieces of the same animal had been lying about in several important museums for years. Further, kraken bodies had been used by the Grand Banks fishing fleet as cod bait for generations!

The second disturbing disclosure, which demonstrates even more forcibly that negative evidence is highly dangerous in zoological prognostication, came to light in 1938. In that year a nine-foot fish, now named Latimeria, which was trawled from shallow coastal waters off South Africa in an ordinary commercial catch, proved to be of a type which had confidently been considered by all scientists to have been extinct, along with all its relatives, for 55,000,000 years—in fact, since what is known to geologists as the Cretaceous Period.

In the face of such "facts"—not just "credible stories," mind you—how can we state with any confidence that anything within reasonable limits of size and specific gravity may not exist in the sea? This is a question that I am not prepared to answer, and I cannot see how anybody can do so, even the well-known ichthyologist who stated in print not so long ago that "there are no sea serpents. The trouble is that too many people see things and then do not know how to describe what they see."

There are serpents that live by the millions all over the Indian Ocean and in the seas around the East Indies. They are small poisonous snakes of many species, all with laterally compressed tails, and they are all well represented in museum collections. The trouble from our point of view is indeed that "too many people see things" such as the fifty-five sworn witnesses to the "monster" of Loch Ness in Scotland, Captain Dean and his officers on the Hilary, and the numerous others who come later. A further trouble, moreover, is that a scientific journal of such unquestionable standing as the Proceedings of the Zoological Society, of London, saw fit to publish the accounts of two trained zoologists named E. G. B. Meade-Waldo and M. J. Nicoll, who therein claim in no uncertain terms that they do "know how to describe what they see." They affirm, forsooth, that they watched for ten minutes, at 100 yards' distance through field glasses, a small-headed, long-necked mammal, with a soft frill on its back two feet high and six feet long. Further, its neck stuck seven to eight feet out of the water and was "about the thickness of a slight man's body." This, they say, they saw at 10:15 A.M. on December 7, 1905, from the yacht Valhalla off Parahiba on the coast of Brazil. It is, therefore, perhaps unwise to state categorically that anything which could exist does not exist. The okapi, for instance, an animal the size of a large horse, did not turn up in the Congo until 1900, and it is certainly improbable enough to behold.

On the other hand, there is the insurmountable fact that the people most likely to have encountered unknown sea animals and best fitted to recognize them—the whalers—have never in 100 years even reported one. Add to this the fact that no piece of one has ever certainly been found and the whole business begins to look odd, if not even fishy.

Nonetheless, the volume of reports, invariably witnessed and usually notarized, that is in existence is little short of astonishing when critically examined. Let us compare the descriptions of but a few who have claimed to have seen such unknown sea animals, but in doing this let us also bear in mind two facts. First, that it was during the middle part of the nineteenth century that the existence of fossil skeletons of the extinct,

(Continued on Page 84)

A HEARING AID WITHOUT CRYSTALS?

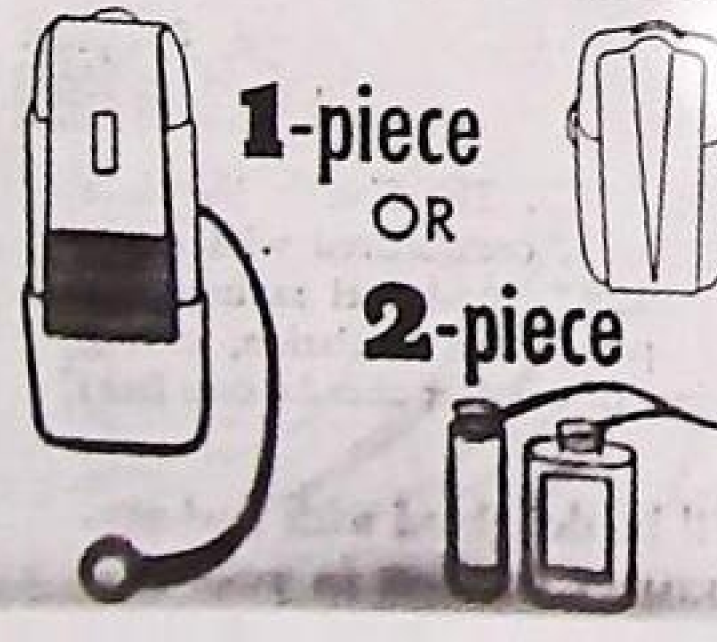
This is it—

THE NEW PERMO-MAGNETIC RADIOEAR

There are no crystals whatever in the new Permo-Magnetic Radioear. At one stroke all crystals have been eliminated from the microphone and from the receiver as well! It just doesn't have any crystals to fade and die under heat, damp, rainy weather or age. Thus the temperature problem

which has never been solved in the crystal type receiver—and the humidity problem which has always been most disturbing in crystal-operated hearing aids are now things of the past with Radioear.

YOUR CHOICE OF TWO BEAUTIFUL MODELS


1-piece
OR
2-piece

DON'T SCOFF AT SEA MONSTERS

(Continued from Page 23)

long-necked, small-headed marine dinosaur, plesiosaurus, with its four flippers and tapering, barrel-shaped body, first became widely known. Secondly, note that the reports from the middle of the nineteenth century until the present day have been made by persons of higher education who were likely to have seen drawings of such reconstructed plesiosaurs. In fact, the real or imagined appearance of the unknown animal of the seas seems to change both radically and rather abruptly after 1848.

In this year perhaps the most celebrated case of all burst upon a highly skeptical world that had been lulled into complacency by half a century during which reports, though numerous, were so often either patently ridiculous or subsequently exposed as plain hoaxes. On October 4, 1848, Her Britannic Majesty's corvette Daedalus arrived at Plymouth, England, from the East Indies, Capt. Peter M'Quhae commanding. A week later, the London Times carried a somewhat flamboyant story headed NAVAL INTELLIGENCE, and stating that the Daedalus had, when in passage between the Cape of Good Hope and St. Helena, sighted a vast sea animal with a long neck, traveling at fifteen miles an hour. Here the matter might have rested as just another newspaper hoax, but, possibly because of the paper concerned, the Admiralty figuratively raised its collective eyebrows so abruptly that they caused an official minute to be dispatched that very day to the commander in chief at Plymouth, instructing him to investigate the veracity of Captain M'Quhae's statement. This prompt action resulted in an equally prompt reply from the captain.

His report stated, in most nautical and official terms, that at five o'clock on the sixth of August, in latitude twenty degrees, forty-four minutes S. and longitude nine degrees, twenty-two minutes E., something "very unusual" was seen by himself, the officer of the watch, a Mr. William Barrett, the man, he must needs put forward an explanation of what they had seen. Worse still, he pounced on the captain's statement that it "had a head like a snake" and went on to state categorically that such a thing did not exist. In this he was, as we have seen above, doubtless correct, but he had, nonetheless, fallen into the trap unwittingly laid for us by our serpent-fearing ancestors, for in denying the existence of "the great sea serpent" he rather stupidly denied the existence of any unknown marine monster. Captain M'Quhae, however, had stated explicitly that the creature he saw did not progress by serpentine movement, and he even said it had shoulders! Further, he now stoutly denied Professor Owen's somewhat puerile suggestion that it was a thirty-foot sea lion or sea elephant.

The professor's summing up was most erudite and in many ways convincing, but, most unfortunately, he also denied the whole theory of evolution just as strenuously till the day of his death.

Despite the pontifications of Sir Richard Owen, and undaunted by the growlings of orthodox science, the public now indulged in an orgy of sea monsters, as opposed to sea serpents. These reports consisted for the most part of the usual crop of hoaxes, misidentifications and insufficiently documented cases, all of which were, however, patiently recorded in a privately printed work entitled The Great Sea Serpent, by Prof. A. C. Oudemans, Director of the Royal Zoological Society, of The Hague, Holland, and published in 1892. This scientist is the firmest believer in the existence of an unknown sea animal. After squeezing every possible or surmised fact out of some 160 cases, most of which are, in my opinion, far more than merely doubtful, he finally submits a seventy-three-page description of the supposed animal, its habits and its affiliations.

Reports since the Daedalus incident average more than one a year, and though experts differ as to which are explicable upon grounds other than the existence of some as yet uncaught sea animal, there still occur among this flood of nonsense some of those "credible stories" of which the Ency-

Keep Brushes like New

BEFORE
AFTER
• 5c
• 10c
• 25c
DIC-A-DOO PAINT BRUSH BATH
Cleans and Restores PAINT BRUSHES

At Paint, Hardware, Dept., and 5 & 10c Stores
Patent Cereals Co. Geneva, N. Y.

FAMOUS REST-WELL

BACKACHE BOARDS (also called Bed Boards)

Doctors say: 'Most beds are entirely too soft'. Try a Rest-Well Bed Board under your mattress for BACKACHES and other pains caused by oversoft beds or saggy springs. Prescribed for SACROILIACS. Insures proper sleeping posture. Made of 8 ply fibre. Prices are:

24" x 60" for one side of double bed (Use two for both sides) . $3.95
30" x 60" for single bed . . . $4.95
36" x 60" for ¾ bed $5.95

Express Paid East of the Mississippi.

Shipped anywhere on receipt of price.
Address Dept. D.
Rest-Well Bed Board Co., 140 W. 34th St., New York 1, N. Y.

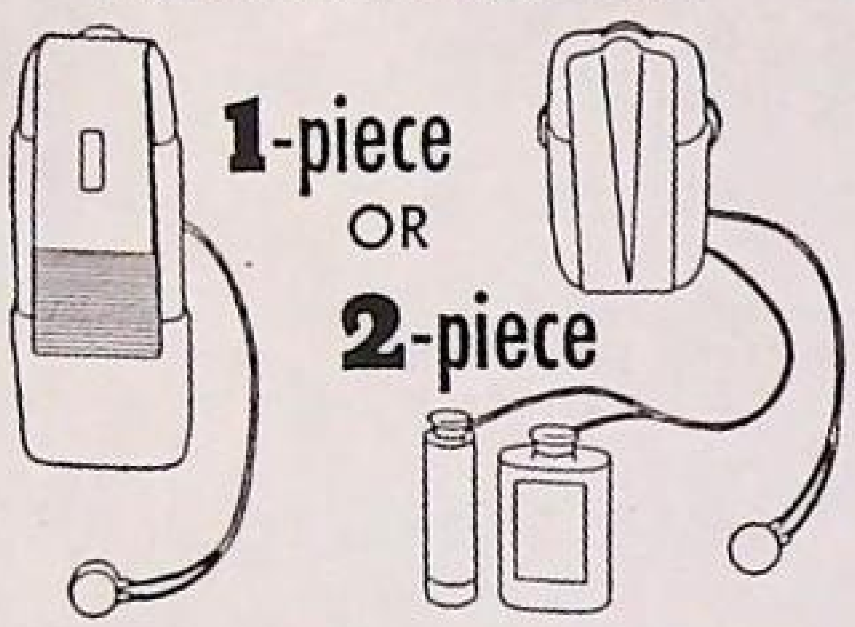
Also sold by leading Surgical Supply Houses & Dept. stores everywhere: send for names and circular

Watch out for—

BUBBLE

which has never been solved in the crystal type receiver—and the humidity problem which has always been most disturbing in crystal-operated hearing aids are now things of the past with Radioear.

YOUR CHOICE OF
TWO BEAUTIFUL MODELS



Radioear makes these history-making new hearing aids, styled by Peter Muller-Munk, in both Uniphone (one-piece) and Multipower (two-piece) models. You decide which suits your convenience, comfort, and hearing budget. Both are Permo-Magnetic and each represents *uncompromising* quality. Each has all —not just a part of the exclusive Permo-Magnetic features: The Permo-Magnetic Microphone, The Noisemaster, The Phonemaster, The Powerizer, Microphone with no openings in front, Selective power output, Adjustable microphone response, Remarkable flexibility of tone control, Air or bone conduction.

See your Radioear Distributor and hear how different Permo-Magnetic hearing aids can be. They are the new hearing aids made without crystals! ☆ ☆ ☆

E. A. MYERS & SONS
Department 35, Radioear Building
306-308 Beverly Road, Pittsburgh 16, Pa.

and stating that the Daedalus had, when in passage between the Cape of Good Hope and St. Helena, sighted a vast sea animal with a long neck, traveling at fifteen miles an hour. Here the matter might have rested as just another newspaper hoax, but, possibly because of the paper concerned, the Admiralty figuratively raised its collective eyebrows so abruptly that they caused an official minute to be dispatched that very day to the commander in chief at Plymouth, instructing him to investigate the veracity of Captain M'Quhae's statement. This prompt action resulted in an equally prompt reply from the captain.

His report stated, in most nautical and official terms, that at five o'clock on the sixth of August, in latitude twenty degrees, forty-four minutes S. and longitude nine degrees, twenty-two minutes E., something "very unusual" was seen by himself, the officer of the watch, a Mr. William Barrett, the quartermaster, the boatswain's mate and the man at the wheel. It passed so close to the ship on a steady course that Captain M'Quhae said that "had it been a man of my acquaintance, I should have easily recognized his features." Sixty feet of the animal showed above water, it had a head like a snake, carried constantly four feet above the water on a long, thin neck. There was a sort of mane on this neck.

This report caused the most tremendous rumpus, not only in the British press but throughout a large part of the world. In fact, the only people who seem to have kept their heads were the Lords Commissioners of the Admiralty, who, after reading its contents, seem to have filed it and said not a word. Appeal was finally made to the great Sir Richard Owen, then probably the best-known European naturalist and paleontologist, who took it upon himself to blast the whole report, not on the grounds that it was a pure hoax, but on the much more subtle theme that Captain M'Quhae and his officers, not being trained zoologists, were incapable of recognizing any living thing in the sea.

Had he rested his case there, little harm might have resulted, for his name commanded the greatest respect, but, being a somewhat peppery old gentle-

part of the usual crop of hoaxes, misidentifications and insufficiently documented cases, all of which were, however, patiently recorded in a privately printed work entitled The Great Sea Serpent, by Prof. A. C. Oudemans, Director of the Royal Zoological Society, of The Hague, Holland, and published in 1892. This scientist is the firmest believer in the existence of an unknown sea animal. After squeezing every possible or surmised fact out of some 160 cases, most of which are, in my opinion, far more than merely doubtful, he finally submits a seventy-three-page description of the supposed animal, its habits and its affiliations.

Reports since the Daedalus incident average more than one a year, and though experts differ as to which are explicable upon grounds other than the existence of some as yet uncaught sea animal, there still occur among this flood of nonsense some of those "credible stories" of which the Encyclopædia Britannica speaks. The following examples are queer, to say the least.

In 1857 a Captain Harrington published in the London Times an extract from the Board of Trade meteorological journal which he had kept aboard the ship Castilian from Bombay to Liverpool. In this he described a huge marine animal that had raised its head—seven to eight feet in diameter at the largest part—twelve feet out of the water on a tall neck, at a range of twenty feet from the ship. This was seen also by his chief and second officers, who signed the report. He gave details as to the shape and appearance of the head and the size of the body below, to which it was attached.

The next unaccountable report came from two reverend gentlemen—John Macrae, minister of Glenelg, Inverness-shire, and David Twopenny, vicar of Stockbury, Kent. They were out in a small cutter, the Leda, in the Sound of Sleat, which divides the Isle of Skye from the Scottish mainland. The year was 1872 and on two successive days of rowing and trying to sail on a glassy, windless sea, they were beset, passed, repassed and scrutinized by a very vast beast which rushed about leaving a large wake. This was at the same time seen by other persons in another boat

FAMOUS
REST-WELL
BACKACHE
BOARDS (also called Bed Boards)

Doctors say: 'Most beds are entirely too soft'. Try a Rest-Well Bed Board under your mattress for BACKACHES and other pains caused by oversoft beds or saggy springs. Prescribed for SACROILIACS. Insures proper sleeping posture. Made of 8 ply fibre. Prices are:

24" x 60" for one side of double bed (Use two for both sides) . $3.95
30" x 60" for single bed . . . $4.95
36" x 60" for ¾ bed $5.95
Express Paid East of the Mississippi.

Shipped anywhere on receipt of price.
Address Dept. D.
Rest-Well Bed Board Co., 140 W. 34th St., New York 1, N. Y.

Also sold by leading Surgical Supply Houses & Dept. stores everywhere: send for names and circular

Watch out for-

BUBBLE TROUBLE

• Don't wait until brakes fail. Air bubbles in the brake line are the danger signal. Use Flare Hydraulic Fluid.

Flare
HYDRAULIC BRAKE FLUID

THE BELL CO., Inc.
ESTABLISHED 1920
411 N. WOLCOTT AVE., CHICAGO 22; ILL.

TRUCK FOR APPLIANCES

Rolls like baby buggy on 4 big (Dual) 8" rubber tires; resilient, quiet, durable, Chrysler Oilite bearings. Easily handles refrigerators, and all appliances up to 1000 lbs.; 54" ht.; 24" nose; 13' web strap. Also handles crates, boxes, bags, etc. $31.95 f.o.b. Over 15,000 Handees trucks sold by mail. Send back express collect if not satisfied. Immediate Deliv. Order Monday—get Friday, from

HANDEES CO., Dept. SE-3, Bloomington, Ill.

GRAVY MAKING IS A TRICKY TASK
GRAVY MASTER
Guaranteed by Good Housekeeping
HAS WHAT IT TAKES

and through a telescope from the shore. But for a series of low humps, more or less equally spaced, about six feet long and six feet apart, and a slightly smaller head, the creature remained throughout discreetly below the surface. The humps constantly rose in orderly procession, one after the other, behind the head, but they always all sank together. Sometimes the head alone, like a curved periscope of enormous dimensions, careered about the sound, causing a "bow wave" and an audible rushing noise.

Then, in 1877, a quite horrid report was submitted to the British Admiralty by Comdr. H. L. Pearson, R. N., of the royal yacht Osborne. This stated that when the yacht—which had sail and paddles—was off the north coast of Sicily, homeward bound, three officers and the commander himself had seen two apparently connected apparitions of immense proportions and unaccountable appearance. To condense the somewhat lengthy report, be it said that their attention was first drawn to a row of irregular fins sticking out of the calm sea in a perfect line and proceeding as one. The largest fin was some six feet tall. As the yacht approached, these sank and in their stead there rose out of the sea the forepart of a gigantic animal. The head was seal-shaped and about six feet in diameter, the neck slender and long enough to allow the animal to throw its head far back out of the water from time to time. The neck joined a vast forebody, fifteen to twenty feet broad at the shoulders, and two fifteen-foot paddles, which flailed right out of the water with a semirevolving motion, propelled the beast. The visible part of the animal was fifty feet long and smooth, like a seal.

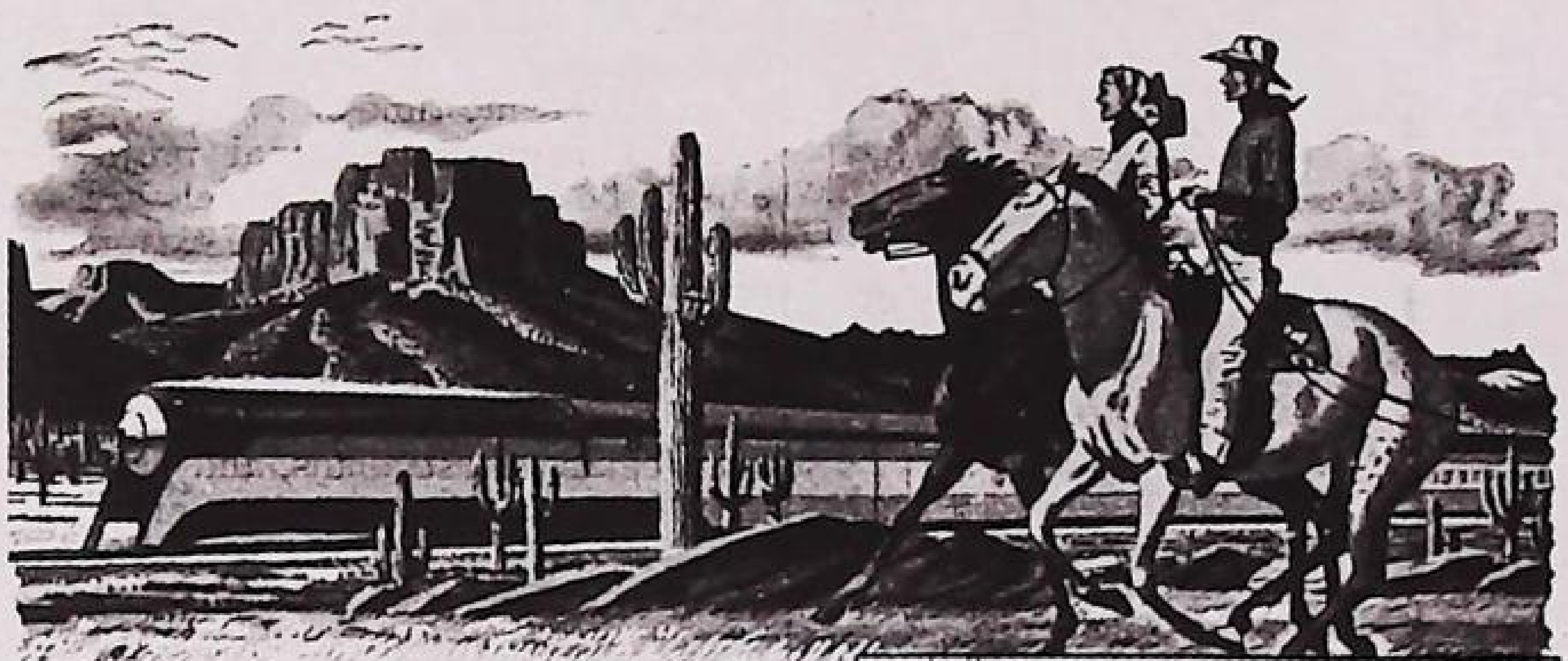
Sixteen years later, a certain Capt. R. J. Cringle, of the S. S. Umfuli, of the Natal Line, produced an even more remarkable report. Better still, he also submitted a drawing which is both competent and disturbingly convincing. It shows a plesiosauruslike beast proceeding at speed over the sea. Captain Cringle encountered this at 5:30 P.M. on December 4, 1893, in latitude twenty-one degrees, forty minutes N., longitude seventeen degrees, thirty minutes W., while on his way to the Cape of Good Hope. The head and neck of the animal were fifteen feet long. It was traveling at an extraordinary speed, apparently with great singleness of purpose, and the body, which had three distinct humps and was much larger in girth than the neck, was visible all the time. It had a smooth skin and toothed jaws. The captain put about and chased the animal till dark. It was seen by several of the crew and was entered in the log.

The Valhalla incident, mentioned before, occurred in 1905, and that of the Hilary in 1917, and then came a quite different account in 1919 from a Scottish civil servant named J. Mac-intosh Bell, who had taken a vacation on the island of Hoy in the Orkneys, off the northern tip of Scotland. Mr. Bell spent his time there with two local fishermen, and on the day of his arrival was told by them that a large unknown animal had been seen almost every day around those parts. The first day he also saw it.

This animal was allegedly some twenty feet in total length, and the neck alone was six or seven feet long. The body was ovoid and terminated behind by two large flippers. There was another pair of flippers by the shoulders, while the neck was slender and

On your trip to CALIFORNIA

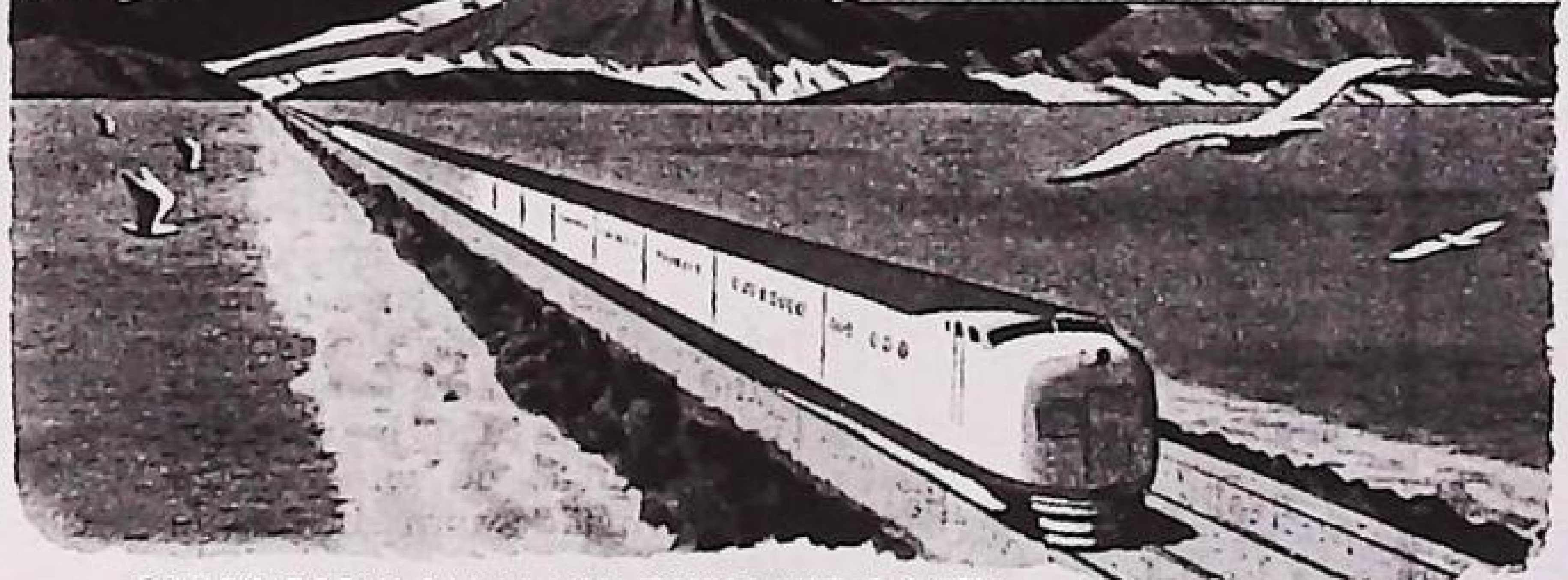
SEE TWICE AS MUCH!



SEE THE MEXICAN BORDER COUNTRY,
GOLDEN STATE ROUTE

FOUR SCENIC ROUTES TO CALIFORNIA
VANCOUVER
VICTORIA
SEATTLE
TACOMA
PORTLAND
4 SHASTA ROUTE
3 OVERLAND ROUTE
SALT LAKE CITY
RENO
LAKE TAHOE
SAN FRANCISCO
OAKLAND
2 GOLDEN STATE ROUTE
CARLSBAD CAVERNS
PHOENIX
TUCSON
LOS ANGELES
SAN DIEGO
NOGALES
EL PASO
SAN ANTONIO
HOUSTON
NEW ORLEANS
1 SUNSET ROUTE
CHICAGO
ST. LOUIS
NEW YORK
WEST COAST OF MEXICO ROUTE
GUAYMAS
MAZATLAN
GUADALAJARA
MEXICO CITY

GO ONE WAY



CROSS GREAT SALT LAKE, OVERLAND ROUTE

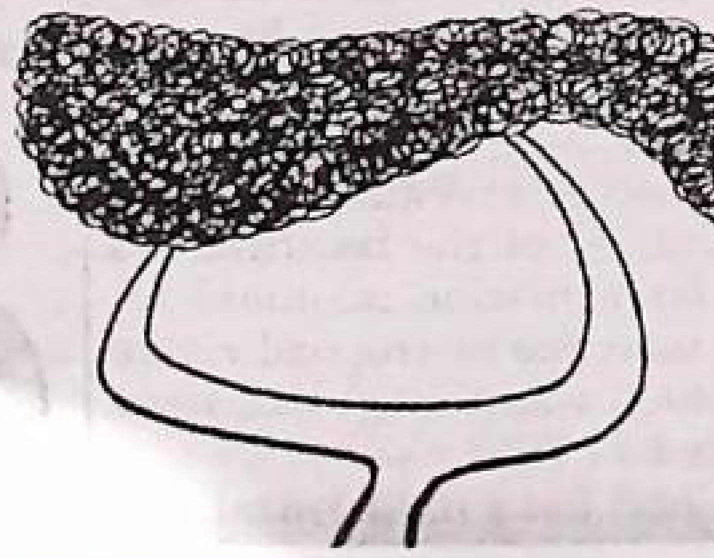
RETURN ANOTHER

Other railroads have only *one* route to

Sierra, Reno, Great Salt Lake, the Rockies,

Beginnings

and



THE Doctor SHOE

THE LAST COMES FIRST

The special Last upon which The Doctor Shoe is built is the starting point of its superb construction, making it definitely a quality shoe to be worn as a treat for your feet and with pride in its excellent craftsmanship.

HOLLAND-RACINE SHOES, Inc.
HOLLAND, MICHIGAN

the head small. This head was described by Mr. Bell as shaped like that of a black retriever dog, six inches long and four broad, with pointed muzzle and dark eyes and whiskers.

For some reason I find this report rather startling. Perhaps this is because Mr. Bell sounds as if he were a man of impeccable honesty; perhaps because he reports that all the fisherfolk of Hoy knew and accepted this creature. I know the fishermen of the Orkneys myself; in fact, I was there about the same time as Mr. Bell, and thus, I suppose, personal prejudice cannot be avoided. Nevertheless, I do know that these people are extremely solid and reliable, just as, curiously enough, are most people who purport to have seen the enigma. It is surely very strange that the English, Scots, Norwegians, Australians, and particularly the Newfoundlanders and the New Englanders, all of whom have an accepted reputation for skepticism, conservatism and solid honesty, are yet the very ones—and practically the only ones—who have made this claim. Further, they are, with one exception, seafaring folk, even if well educated—a point that is made much of by the believers in strange sea beasts.

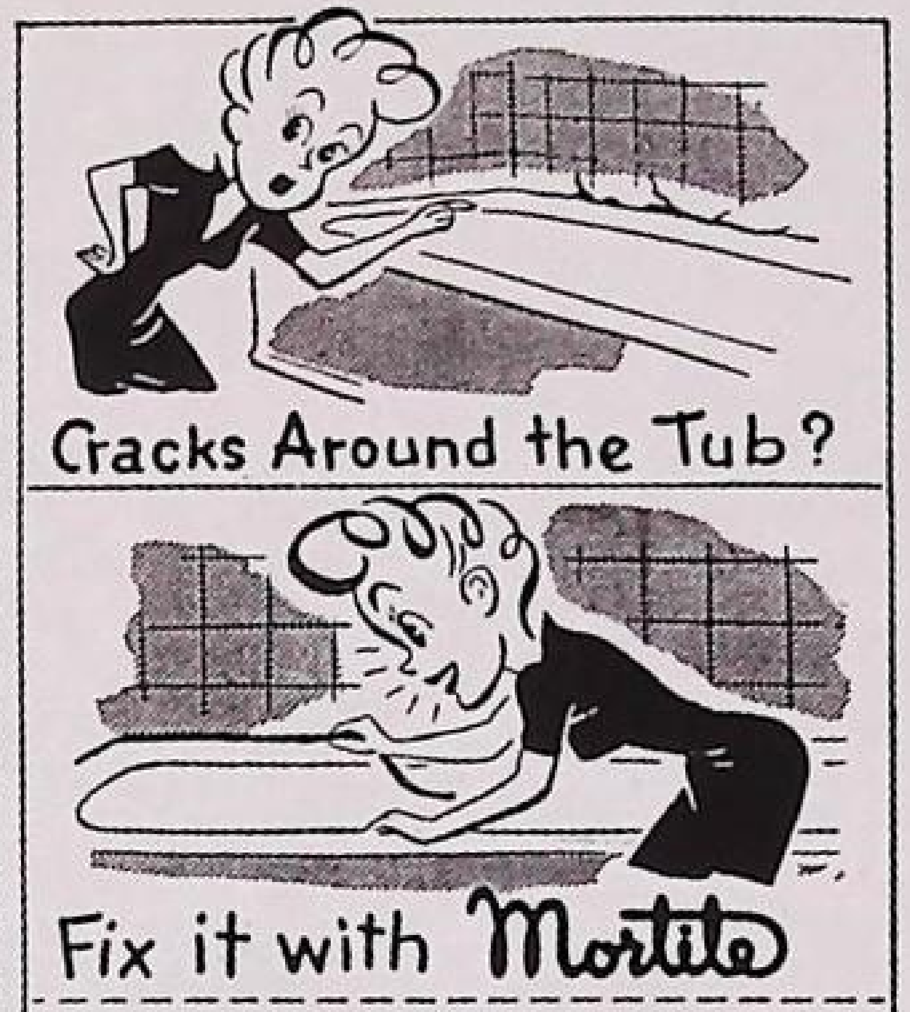
Since 1919 also there have occurred several incidents that are hard to explain. Of these, the best known is unquestionably the famous Loch Ness monster, of Scotland. Since the reports of this affair, which extended over many months, are in the files of almost every newspaper and since two lengthy treatises have been written on the subject, we need not repeat them at length. Suffice it to say that there is no doubt that some large animal cruised about this twenty-three-mile-long inland lake for more than a year, showing itself in a tentative and shy manner to hundreds of witnesses, many of whom made sworn statements to the fact. These statements include all the details that will have become irksomely repetitious to any who have waded through Doctor Oudemans' tome or who have read the other array of literature on the subject—lines of humps peeping out of the water, paddles, a long neck and small head, a large wake traveling about at speed, and masses of churned-up water. So it on land. This, in turn, leads to the further question: Why should anybody indulge in all this bunkum at any time, in view of the ridicule that they may expect to have heaped upon them?

If the reports of the animal or animals are examined—both old and recent, explicable on other grounds or not, and from all parts of the world—it must be admitted that there is an extraordinary degree of concurrence among them. Time and time again the same physical features and the same behavior are ascribed to the beasts. Further, there is no evidence to show that so-called witnesses to an appearance in Australia had ever heard of incidents in the South Atlantic, nor that those were known to Scottish fishermen or civil servants. As for the New Englanders, of whom hundreds said they saw such beasts for months on end in 1817–1819, about Gloucester, it cannot be believed that they had then all read the fabulous sixteenth-century works on the sea serpent, and certainly none of them had ever heard of a plesiosaurus.

Then, again, how many strange beasts like Latimeria may not have been fished out of the sea and either thrown back because they had no commercial value or been boiled down because they had?

Yet it seems that nearly every case of a strange animal remnant washed ashore turns out to have a perfectly logical explanation—that is, it proves to belong to some known form.

I have, however, found an instance where there was some doubt as to what the creature was. A thirty-foot, much-decomposed string of vertebrae, with a skull and four paddlelike appendages attached, was found on the beach of Henry Island, British Columbia, in November, 1914, and on this scientists disagreed. Doctor Clemens, of the government biological station at Nanaimo, affirmed that it was a basking shark—as is so often the case with such jetsam—while officials of the Provincial Museum at Vancouver said it was the remains of the last Steller's sea cow—a large marine mammal related to the manatee of tropical rivers and seas—which was thought to have become extinct in 1854.



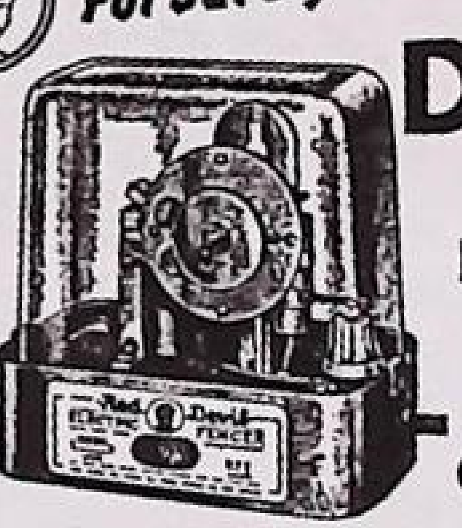
a household friend

Pliable Mortite fills cracks around tubs, sinks, baseboards, etc. Fine for calking, an ideal weather-stripping, stops rattles, keeps out dirt, insects. Never shrinks or cracks. Easy to apply—just press into place. Roll covers about 80 ft. At Hdwe., Dept. Stores, Lumberyards. Write for free booklet.

$1.25 *Higher West of Rockies and Canada*

J. W. MORTELL CO., 523 Burch St., Kankakee, Ill.

For Safety Sake RED DEVIL



No. EF1 ELECTRIC FENCER
Battery Operated

Red Devil Tools.
IRVINGTON 11, NEW JERSEY, U. S. A.

Stop CORNS!
HERE TODAY
GONE TOMORROW
SORE TOES
Instant Relief

THE LAST
COMES FIRST

The special Last upon which The Doctor Shoe is built is the starting point of its superb construction, making it definitely a quality shoe to be worn as a treat for your feet and with pride in its excellent craftsmanship.

HOLLAND-RACINE SHOES, Inc.
HOLLAND, MICHIGAN
93 Years of Combined Shoemaking Skills

Independence Is A
Wonderful Thing!

for value *plus* service
buy from your friendly
INDEPENDENT SHOE DEALER

HOLLAND-RACINE SHOES, INC.
HOLLAND, MICHIGAN

monster, of Scotland. Since the reports of this affair, which extended over many months, are in the files of almost every newspaper and since two lengthy treatises have been written on the subject, we need not repeat them at length. Suffice it to say that there is no doubt that some large animal cruised about this twenty-three-mile-long inland lake for more than a year, showing itself in a tentative and shy manner to hundreds of witnesses, many of whom made sworn statements to the fact. These statements include all the details that will have become irksomely repetitious to any who have waded through Doctor Oudemans' tome or who have read the other array of literature on the subject—lines of humps peeping out of the water, paddles, a long neck and small head, a large wake traveling about at speed, and masses of churned-up water. So well authenticated and protracted were these manifestations that all the leading British papers and international cable services kept permanent correspondents at the lakeside for weeks. The humps, wakes and churns were even photographed.

This case reached a crescendo on January 5, 1934, when a young veterinary student named Arthur Grant declared that, while motorcycling along the side of the lake at 1:30 A.M., he had seen the animal on shore. His description states: "It had a long neck with eel-like head and large, oval-shaped eyes just on top of its small head. The body was very hefty, and I distinctly saw two front flippers. There were two other flippers which seemed to be webbed behind, and there was a tail which I estimated to be five or six feet long. The curious thing about the tail was it did not, as far as I could see, come to a point, but was rounded off. The total length of the creature would be fifteen to twenty feet. . . . It looked like a hybrid—something between a plesiosaurus and the seal tribe."

Now, this description raises the very potent question as to why Arthur Grant, if he wanted to perpetrate a hoax about a sea serpent or sea monster, should say that he had seen ashore turns out to have a perfectly logical explanation—that is, it proves to belong to some known form.

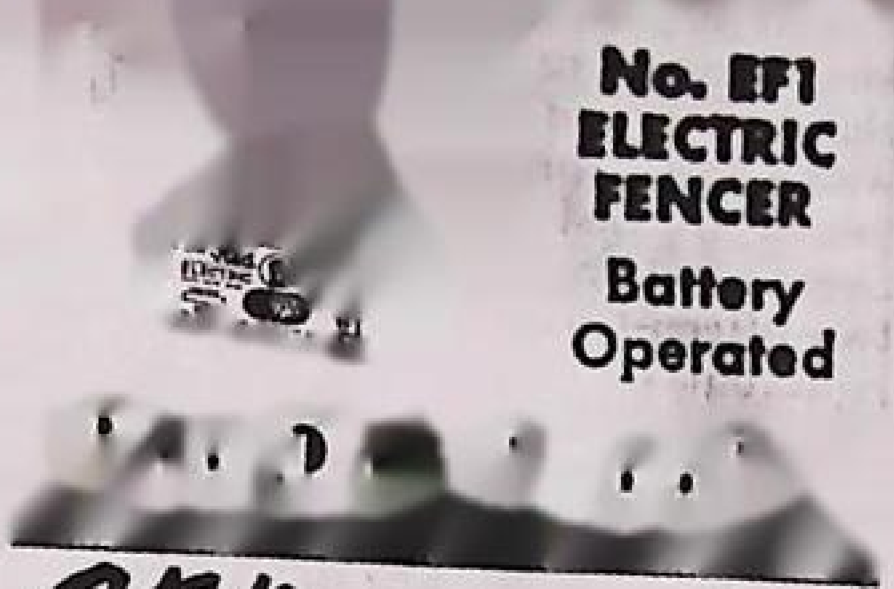
I have, however, found an instance where there was some doubt as to what the creature was. A thirty-foot, much-decomposed string of vertebrae, with a skull and four paddlelike appendages attached, was found on the beach of Henry Island, British Columbia, in November, 1914, and on this scientists disagreed. Doctor Clemens, of the government biological station at Nanaimo, affirmed that it was a basking shark—as is so often the case with such jetsam—while officials of the Provincial Museum at Vancouver said it was the remains of the last Steller's sea cow—a large marine mammal related to the manatee of tropical rivers and seas—which was thought to have become extinct in 1854.

Answers to

Beginnings and Ends

Page 85

1. Alaskan Highway.
2. The administration of William Henry Harrison, who died a month after taking office.
3. Appalachian Mountains.
4. Shakespeare's Othello.
5. Post and Gatty's flight around the world.
6. Stephen Foster's song Old Folks at Home.
7. Ohio River, which ends at Cairo, Illinois.
8. Blue Water International Bridge, connecting Port Huron, Michigan, and Sarnia, Ontario.
9. The Spanish-American War.
10. Oath of office taken by the President of the United States.
11. The succession of six wives of Henry VIII, from Catherine of Aragon to Catherine Parr.
12. Saccharin.



Stop
CORNS!

HERE TODAY
GONE TOMORROW
SORE TOES

CORNS
STOPPED

Instant Relief

Never wait! Promptly protect sore toes from tight shoes with Dr. Scholl's Zino-pads and you'll stop corns *before* they can develop. But—if you have corns—Zino-pads will give quick relief.

QUICKLY REMOVE CORNS when used with the separate *Medications* included. No other method does all these things for you. Zino-pads cost but a trifle. Get a box today.

Dr Scholl's Zino-pads

EVEREST & JENNINGS folding
WHEEL CHAIRS
bring independence
to the handicapped

E & J Folding Wheel Chairs are comfortable, compact and beautifully designed of chromium plated tubular steel. Because they FOLD for automobile travel, E & J Chairs make it possible for handicapped individuals to work, play, go anywhere!

Manufactured in California
7748 Santa Monica Blvd., Los Angeles 46

Lightest and Strongest Wheel Chair

Everest & Jennings Wheel Chairs weigh only 34 pounds . . Width open is 24½ inches . . . Closed 10 inches. Your dealer can supply you . . or write direct for catalogue and information about E & J Folding Wheel Chairs.

EVEREST & JENNINGS, Dept. P
7748 Santa Monica Boulevard, Los Angeles 46, California
NAME ______________________
ADDRESS ______________________

No sufficient amount of evidence either for or against the existence of one or more unknown sea animals of large size can be given in an article of this compass. Should, however, we agree with the Encyclopædia Britannica and say that a number of credible stories are not satisfactorily explained, what do the reports that are not otherwise explicable indicate?

There seems to be substantial agreement among them. The creature may vary from twenty to 175 feet in length. It has a long and slender neck and long, tapering tail, a small head and one or two pairs of paddles. It seems to be smooth, which is to say, scaleless or sleek-haired, like a seal, and it may have whiskers. Now, these characters are mammalian rather than reptilian and, taken together with the only report from "trained zoologists"—those on the Valhalla, who also asserted that what they saw was a mammal—would seem to make the idea that the creature or creatures are plesiosaurs unnecessary. However, it might be pointed out that the survival of dinosaurs is by no means impossible, not only on the lines laid down by Latimeria but for the simple reason that millions have survived—for example the crocodiles.

Even Doctor Oudemans' imaginary construction, which looks exactly like an attenuated plesiosaur, is not an impossible form for a mammal to take. In fact, it is really odd that none has developed along such lines, for this is an efficient shape for a marine creature that must pursue swift, finny food. A tapering tail would seem to be a silly rudder, but then almost every report of the enigma speaks of fins or frills, which would act as stabilizers. There is, therefore, really no reason why such a mammal could not exist.

This, of course, prompts the question as to which group of animals it would prove to be related to, if it were eventually captured. Doctor Oudemans has been over all this speculation in great detail, and I must admit that, given the only feasible types of marine mammals to choose from—whales, seals and manatees, with the extinct, whalelike beasts known as Zeuglodonts—he was not too unreasonable in selecting the seals.

Many reports say the head of the unknown is seal-like, and seals have four flippers, which resembles Mr. Grant's description of the Loch Ness monster. All we need, in fact, is one or more species of huge seal with long necks and tails, and the enigma would be solved.

Yet, I repeat, we have not got one, and in the meantime we had perhaps better take our cue from the Encyclopædia Britannica and admit merely that "there still remain a number of independent and apparently credible stories which are not satisfactorily explained."

THE END

BARRACUDA

(Continued from Page 42)

"I can't afford to waste my energy being angry," I said. "I have to save it for important emotions, like being scared."

"Are you scared of something too?"

I tried not to pounce too eagerly on her remark. If Sherry was willing to admit she was afraid of something, she might admit other things if I went at it slowly. Maybe I could coax her to tell me the truth, without Arab and Georgia being around. "Yes," I said, "I'm scared because a lot of things are happening that I don't understand, and I'm afraid somebody will get hurt."

I looked at her suspiciously. It seemed to me that she began all her best fibs that way.

"You see," she whispered, "I've been a hostage."

"No," I groaned.

"Yes, a hostage," she said happily. "My father is a scientist and he left me with some people he thought were his friends while he went off to a secret place to work on the atom bomb. He expected to be gone a couple of years and wouldn't be able to take care of me during that time. Well, these people weren't his friends at all. They let a man from a—a foreign power take me away. He wanted me to write a note to my father saying I would be killed if my father didn't tell him all the secret

Firecrackers ....
in March?

"Aren't you a little early this year, Bill? I've sold you firecrackers ever since you were a youngster, but you never wanted them in March before."

"I was just kidding about the firecrackers, Mr. Meecham. But this *is* my personal Independence Day. I have my own Declaration of Independence to prove it, too."

"Hmm . . . sounds like a life insurance policy to me."

"You're right! And it guarantees my wife and me financial independence! Why, even if anything happened to me now, Janet would still be sure of a com-

"That sounds mighty fine, Bill. But how did you arrange it without spending a small fortune?"

"It was easy. I looked into the 'Insured Income' Service that Mutual Life has been advertising. It's a new way to team up Social Security with life insurance to get the most out of both. Why, for a few dollars put aside now, I can make sure that Janet will always be taken care of . . . and when I hit 65, there'll be a comfortable retirement income for both of us."

"That's real independence, Bill. I don't blame you for wanting to cele-